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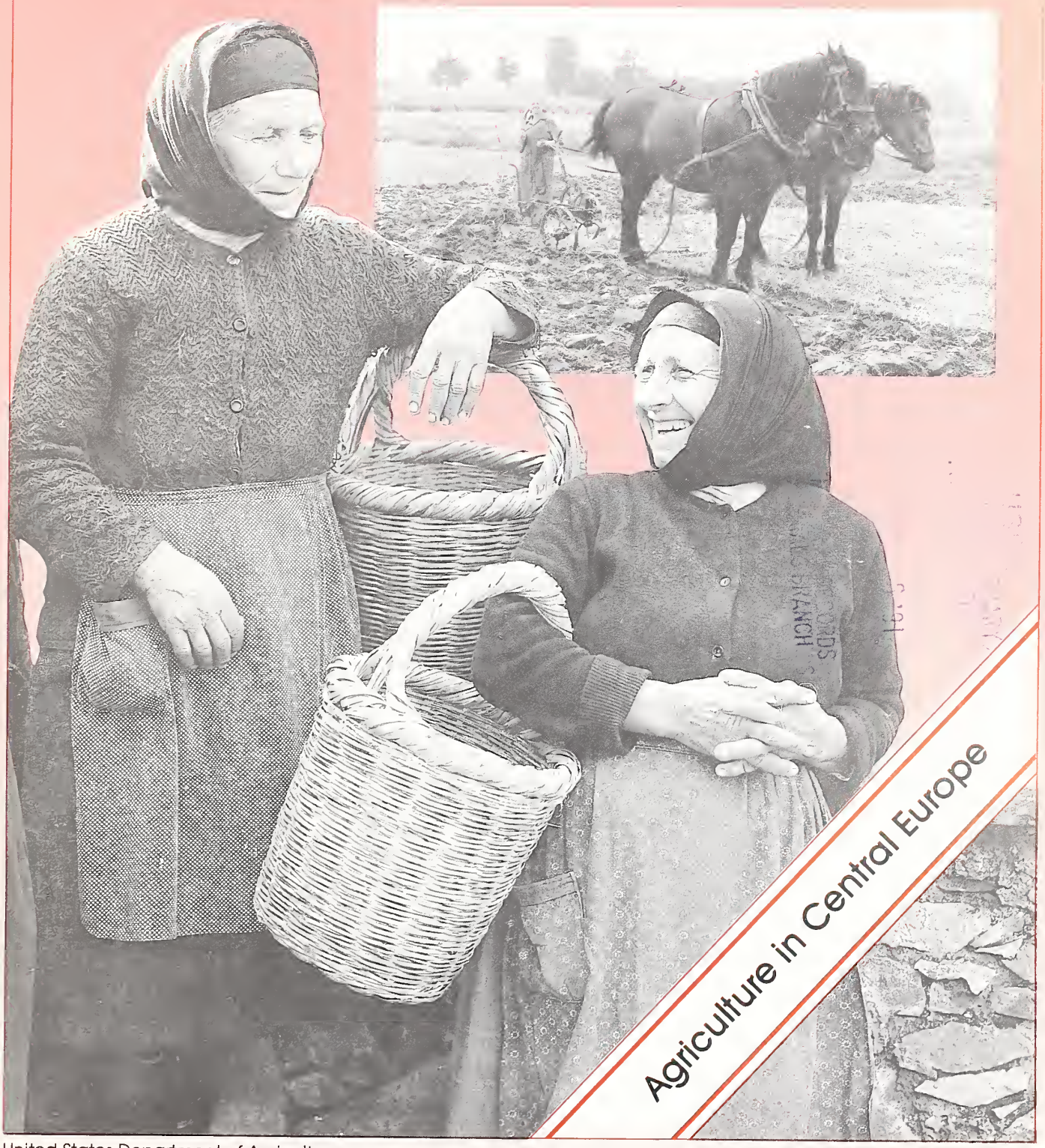
# World Agriculture

Current Trends and Prospects



## Agriculture in Central Europe

United States Department of Agriculture
Economic Research Service

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Current Trends and Perspectives

*No. 62*

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This issue of ***World Agriculture*** inaugurates a new format for a quarterly report that has been published for almost 20 years by the Economic Research Service (ERS). ***World Agriculture*** will continue to be dedicated to publishing authoritative, topical articles concerning world agricultural production, trade, and resource use based on ERS research and contributions from other sources.

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## A Change in Terminology

With this issue, we begin the practice of referring to Eastern Europe as **Central Europe.** There are two reasons for this change, one historical, the other geographical.

First, the term Eastern Europe came into use during the Cold War, when a collective term to distinguish those European countries within the Soviet Bloc from other European countries was not only useful but necessary. It was generally understood that Eastern Europe consisted of economies where central planning was the rule. This is no longer the case. The former Soviet-dominated countries of Eastern Europe are today developing market economies each in its own individual way. In short, they no longer constitute a bloc of centrally planned economies, any more than West European countries constitute a bloc of free market economies. The old terminology has become redundant.

Second, it makes geographic sense to talk of Poland, Czechoslovakia, Hungary, Yugoslavia, Albania, Bulgaria, and Romania as lying in Central rather than Eastern Europe. This conforms to their position in a continent that extends, in a phrase made famous by Charles de Gaulle, "from the Atlantic to the Urals." We plan to refer to them henceforth as Central European countries, without prejudice to other countries in the region or implying that the USSR should be referred to as Eastern Europe instead of as the USSR.

**—The Editors**

# The World Economy and Exchange Rates

The outlook for the world in 1991 will be even slower economic activity than in 1990 because virtually all the developed countries face declining real output growth. Inflation will also subside significantly, with oil prices at or below 1990's $21 per barrel average, paving the way for a recovery in 1992. The impact of higher oil prices in the second half of 1990 on global GNP expansion was to accelerate the downward trend already underway. High interest rates in the major developed countries along with falling equity markets were largely to blame for the initial weakness.

In contrast, the developing countries as a group are expected to improve their overall performance in 1991 as Asia continues its output expansion and Latin America benefits from much lower inflation. The runup of crude oil prices in 1990 hurt fuel-importing countries, but produced a windfall for Mexico, Venezuela, and Ecuador. In the former group, real income losses will be reflected in lower domestic demand and less imports. Another factor is that lower U.S. interest rates in 1991 should alleviate high debt-service obligations in the severely indebted countries in Latin America, as elsewhere.

## Developed Economies

The developed economies will experience lower aggregate demand in 1991 as business fixed investment and private consumption slow further. The sharp deterioration of real GNP growth—from 2.7 percent in 1990 to 1.7 percent in 1991—will adversely affect developing countries as developed-country import demand decelerates more rapidly than exports. Germany's fast declining trade surplus benefits its neighbors more than developing countries, except possibly oil exporters. Current account balances in the United States, Japan, and Germany will continue to shrink, thus removing one source of exchange-rate instability, and eventually reducing differences in economic growth rates among them.

The United States and other currently weak economies will probably recover more quickly than expected due to lower inflation trends, more stable oil prices, and lower interest rates. However, the reluctance of U.S. banks to extend commercial credit will push down total fixed domestic investment by 2 percent in 1991. A slowdown is also expected in Germany because high short-term interest rates caused by the rebuilding of East Germany will cut gross fixed investment and even government spending growth by more than half in 1991. In Japan, the pace of gross fixed investment will also fall significantly due to higher interest rates and the weak stock market.

## The Developing Countries

Unlike the developed countries, the developing countries as a group face brighter prospects in 1991 as positive GDP growth rates are posted in Latin America and the Middle East. These two regions registered negative growth in 1990 due to runaway inflation in the former and sanctions imposed on Iraq and Kuwait. The anticipated improvement in economic activity for all regions through 1992 results from lower and more stable oil prices for the oil-importing countries and continued healthy growth in exports despite some slackening of import demand from the developed countries in 1991. Recent efforts toward greater market orientation of industrial and trade policies also contribute to the optimistic outlook.

External financing for both trade and infrastructure is not expected to shrink because of much greater reliance on official and multilateral loans than on commercial lines of credit, which apparently have virtually dried up. However, since official loans usually require stabilization and liberalization measures, short-term benefits are limited in comparison to medium or long-term prospects. As in the developed countries, the outlook for 1992 looks even brighter as inflation, particularly in Latin America, becomes less of a problem.

## Third-World Debt

Net capital transfers to developing countries in 1990 turned positive for the first time in 6 years, reaching an estimated $9.3 billion. Assistance was mostly from official sources and the number of grants and concessional loans grew, while the number of nonconcessional loans from bilateral sources fell. The dependence on commercial banks is reduced not only because of the banks' refusal to extend more loans, but also because the Brady Initiative is geared more toward reducing exposure to commercial loans and less toward reducing indebtedness to official sources. Outside of the Brady Initiative, several countries have reduced commercial bank debt significantly through swaps of debt for private equity.

Nevertheless, the debt crisis is far from over—total external debt of all developing countries rose by 6.3 percent to $1.34 trillion in 1990, and debt-service payments will rise by 13.4 percent in 1991 to $190 billion. However, the ratio of external debt to GDP is projected to fall below 30 percent for the first time in more than a decade. If the debt-to-exports ratio keeps falling (from its peak in 1986), then debt service as a percentage of exports will continue to decline despite the rise in average interest costs. Another encouraging trend is the growth in net long-term resource flows, including foreign direct investments, to about $70 billion in 1990.

## Central Europe and The USSR

Output declined in 1990 in all of these countries, which as a group will be in recession for at least the next 2 years. Because of far-reaching reforms, Poland suffered the steepest recession. This year, the USSR will be the worst case not only

because of falling production, but also because inflation is increasingly widespread. The phasing out of former trade agreements in the region will cause the external position of Central Europe to deteriorate by almost $10 billion against the USSR, and cause trade to decline by 30 percent. The terms of trade will universally deteriorate in Central Europe as transactions with the USSR shift to world market prices in convertible currencies.

Inflation will generally remain intractable as long as the overhang of money balances is kept intact by price controls, subsidies, and rationing. The absence of monetary reform to reduce the actual stock of money also provides little incentive to cut budget deficits. And as long as private property rights and privatization are not fully established, foreign direct investments might largely be limited to joint ventures. Furthermore, trade liberalization is crucial in breaking domestic monopolies and in gaining efficiencies from the division of labor. Trade expansion is critical not only for economic growth but also to curb external debt growth. If current efforts to write off outstanding official debts are successful, foreign direct investments should expand.

## World Trade

The value of exports and imports in the developed countries will slow only slightly in 1991, given stronger trade activity in Japan and only moderately lower activity in Germany and in North America. Export performance in the developing countries, led by Asia, Latin America, and the Middle East oil exporters, will improve from 1990's 14.5-percent increase to almost 17 percent in 1991. Oil exporters are expected to quickly raise imports in response to higher oil revenues, thus absorbing a sizable portion of exports of other developing countries. Moreover, the improvement in the U.S. competitive position due to dollar depreciation in 1990 and early 1991 should further reduce the current account imbalances in the United States, Japan, and Germany. By 1992, the U.S. current account deficit and the Japanese and German surpluses are projected to narrow to about 1 percent of GNP in each case.

The impact of higher oil prices on overall trade prices was muted somewhat outside the United States in the second half of 1990 because of dollar depreciation. Trade prices are projected to rise over the next 2 years by 3.5 to 5 percent compared with less than 2 percent in 1990, partly as a result of higher fuel prices and greater demand. Market prices of nonfuel commodities dropped 8 percent in 1990 and are not expected to recover in 1991. Prices of manufactured products should benefit from the increased demand because their share of total world merchandise trade now exceeds 70 percent. The lagged effects of dollar depreciation since mid-1990 on non-U.S. prices will take up to a year to complete. Hence, by 1992, some retrenching of import demand due to higher prices of traded goods is expected to slow world trade.

## Oil Prices

World crude oil prices have retreated from a peak of $33 per barrel in October 1990 to under $18 in early February 1991, a 46-percent decline. Nevertheless, current price levels are still 20 percent higher than the $15 in July 1990, before the Persian Gulf crisis. The combination of high OPEC production and 5-percent- lower petroleum demand in Organization for Economic Cooperation and Development (OECD) countries, particularly the United States, reduced the chances of repeating past worldwide recessions following a temporary oil shortage. The supply situation is bolstered by the highest levels in OECD oil stocks—over 1 billion barrels, not including petroleum reserves.

In the United States, net oil imports of 6 million barrels per day (mbd) are well below domestic production levels of 7.4 mbd. As recently as August 1990, oil imports exceeded domestic production by almost 500,000 barrels per day. The impact of last year's higher oil prices on U.S. and other OECD inflation rates was not as severe as previous escalations because of the relatively small price rise and already slowing world inflation and demand. In addition, the energy consumption per unit output of OECD economies has decreased significantly since the first oil crisis in 1973. For 1991, western oil consumption is likely to average below 38 mbd, whereas demand in non-OECD countries is forecast to rise 3.5 percent to 15.8 mbd, enough to raise world demand by 1 percent.

## World Credit Supply

The demand slowdown in the major economies, and last year's double dose of weaker equity prices and lower real household wealth, particularly in the United States, and probably lower land prices in Japan this year, will curtail spending and should encourage the buildup of personal savings. Moreover, as the dependency ratio—the population aged under 15 and over 64—in the developed countries declines in the next decade, household savings are expected to increase. Thus, the prospects for global savings from private sources should be boosted. However, the budget deficits in Germany and the United States, which will probably rise again as the economic slowdown cuts tax revenues, are a drain on the savings pool.

Short-term interest rates in Germany and Japan are substantially higher than recent historical levels. Their low inflation rates boost real yields on short-term investments and keep long-term rates lower than they otherwise would be. These should contribute to the prospects for a higher savings supply. Weak spending in the United States should also help the availability of funds in spite of much lower U.S. interest rates. The refusal by commercial banks to lend to heavily indebted developing countries would likewise keep the credit supply intact until the anticipated recovery of world activity in 1992. Finally, the struggling economies of Central Europe and the USSR are apparently unprepared to absorb a

large infusion of funds until structural reforms are fully in place.

### Exchange Rates

U.S. short-term interest rates are now 1 percentage point lower than they were only last December, exacerbating the differential against higher German and Japanese rates. While the dollar has depreciated only moderately since then against the mark and the yen despite its lower money market yields, it faces increasing downward risks should U.S. interest rates fall further, or if German rates resume their climb. Real short-term yields in the United States are also much lower than in Germany or Japan, where economic activity remains strong. Since long-term U.S. rates exceed short-term rates and German and Japanese yield curves are inverted, the dollar will likely slide some more before recovering or stabilizing—in anticipation of a turnaround in the weak U.S. economy and the awaited weakening in Japan and Germany.

Relative to Germany, money supply growth rates in the United States and Japan were much slower in 1990, a reflection of lack of demand brought on by the U.S. recession and anemic equity markets in Japan. These developments, along with the diminution of respective external account balances, should provide a counterweight against the rising U.S. budget deficit, and thus against imminent upward pressures on U.S. interest rates.

Moreover, the shrinking U.S. current account deficit eliminates one important reason why the dollar needs to stay cheap. The yen might even benefit from lower interest rates—so long as U.S. rates do not rise at the same time—if fears of a possible collapse in land prices subside, thus avoiding another shakeout in Japan's stock market. Because of the alignment of exchange rates in the European Community, the U.S. trade surplus with Western Europe appears secure, providing German interest rates remain high.

Interest rate differentials in Germany and the United States have recently widened, but monetary policy actions in Germany intended to slow growth there, along with Federal Reserve moves to revive growth in the United States, should lead to their narrowing. But the revival of the dollar revolves more around the question of when, given uncertainties about escalating costs of unification in Germany and the severity of the U.S. economy's downturn. The preeminence of domestic needs will largely dictate monetary policy in both countries, thus shunting exchange rate stabilization to secondary status for the time being. *[Alberto Jerardo (202) 219-0717]*

# GATT Trigger in U.S. Farm Legislation

The Brussels meeting that was to have ended the 4-year-old Uruguay Round of multilateral trade negotiations instead concluded on December 7, 1990, without a final agreement. The negotiations became deadlocked over agricultural trade.

An 11th-hour compromise proposal by Mats Hellstrom, Sweden's farm minister, was accepted by the U.S. and most other delegations as a basis for negotiation, but the European Community (EC), Japan, and South Korea could not accept it as a basis for proceeding. The EC hinted at flexibility in considering a simultaneous reduction in internal support, export subsidies, and import barriers, the three key areas, but attached unacceptable conditions. The EC previously had appeared willing to accept reductions in export and import measures only as a collateral result of reductions in internal support.

Attempts to get the suspended negotiations restarted were finally successful despite serious differences, especially between the United States and the Cairns Group on the one hand and the EC on the other, yet to be worked out over how to reduce trade-distorting effects of government intervention in agriculture.

Nevertheless, all the participants agreed to negotiate to achieve specific binding commitments in each of the three key areas and to resume negotiations for a sanitary and phytosanitary agreement.

The inability to reach agreement by the original GATT December deadline has focused attention on the issue of renewing the expiring congressional "fast track" authority which calls for an "up-or-down" vote on the prospective agreement as an indivisible package. The absence of such

**World real economic growth**

| Calendar year | 1990 | 1991 | 1992 |
|---|---|---|---|
| | | *Percent change* | |
| World | 1.6 | 1.6 | 3.4 |
| World less U.S. | 1.8 | 2.0 | 3.4 |
| Developed countries | 2.7 | 1.7 | 3.3 |
| DC's less U.S. | 3.7 | 2.4 | 3.3 |
| United States | 0.8 | 0.4 | 3.2 |
| Canada | 0.7 | 0.4 | 2.1 |
| Japan | 6.2 | 4.1 | 5.5 |
| EC-12 | 3.2 | 1.9 | 2.6 |
| Developing countries | 1.5 | 4.1 | 6.1 |
| Latin America | -1.9 | 3.6 | 4.6 |
| Mexico | 2.6 | 3.4 | 4.6 |
| Asia | 5.2 | 5.6 | 6.1 |
| South Korea | 8.9 | 7.4 | 8.0 |
| Taiwan | 5.1 | 6.8 | 7.9 |
| China | 4.0 | 5.3 | 5.8 |
| Middle East | -4.9 | 0.5 | 12.5 |
| Africa | 2.7 | 3.0 | 3.6 |
| Central Europe | -4.7 | -4.5 | -2.3 |
| USSR | -2.5 | -3.9 | -3.4 |

Sources: The WEFA Group (January 1991).

authority would greatly complicate the successful conclusion of the multilateral trade negotiation. In addition, so-called "triggers" have been written into current U.S. farm legislation that might directly affect U.S. farm programs in the event no GATT agreement is reached.

The agricultural provisions of the 1990 Budget Reconciliation Act establish a two-tier trigger mechanism that would require adjustments in specific commodity and export programs to be implemented by the Secretary of Agriculture, as appropriate to protect the interests of U.S. agricultural producers and ensure the international competitiveness of U.S. agriculture. If the United States has not entered into a Uruguay Round agricultural trade agreement by June 30, 1992, the Secretary must increase the level of export promotion programs authorized by the Food, Agriculture, Conservation, and Trade Act of 1990 by $1 billion during fiscal years 1994 and 1995, and must establish marketing loan programs for the 1993-95 wheat and feed grain crops. The Secretary may also waive the minimum levels of acreage reduction requirements for any 1993-95 program crops. This authority would terminate if the President certified that the failure of the negotiations in agriculture resulted, in part or in whole, because the fast track authority was not available with respect to the bill or bills necessary to implement an agreement.

The second trigger is activated if a Uruguay Round agricultural trade agreement has not entered into force for the United States by June 30, 1993. In that eventuality, should the Secretary determine that action was appropriate to protect the interests of U.S. agricultural producers and ensure the international competitiveness of U.S. agriculture, he may (1) waive all or part of the provisions of the 1990 Budget Reconciliation Act requiring reductions in agricultural spending, and (2) increase the level of funding for trade programs, or establish marketing loans for 1993-95 wheat and feed grain crops, or both.

The 1990 Budget Reconciliation Act, with the objective of reducing government outlays, modifies many provisions of the Food, Agriculture, Conservation, and Trade Act of 1990, which set farm legislation for the next 5 years. *[Richard Kennedy (202) 219-0689]*

# Agriculture in a U.S.-Mexico Free Trade Agreement Negotiation

Last June, Mexican President Carlos Salinas de Gortari asked President Bush to consider a U.S.-Mexico free trade pact. On September 25, President Bush notified the House Ways and Means Committee and the Senate Finance Committee that negotiations are to be conducted on a U.S.-Mexico Free Trade Agreement (FTA), opening the way for a congressional "fast-track" approval process similar to that used in negotiating the recent U.S.-Canada FTA. On February 5, President Bush announced that by agreement of the three countries the forthcoming negotiation would be a trilateral one including Canada.

What would a free trade agreement mean for U.S. and Mexican agriculture? In two countries with very different agricultural sectors, such as the United States and Mexico, one would expect greater gains than, for example, countries with similar agricultural sectors. Freer trade would result in increased trade flows as trade obstacles are removed. Other things being equal, consumers in both countries would benefit from increased access to larger quantities, possibly greater variety, and lower prices for some products that are currently restricted. Some producers in both countries would achieve efficiency gains from specialization and increased scale of production as markets expand. However, other producers in both counties would face adjustment challenges.

In 1990, Mexico was the third largest single market (after Japan and Canada) for U.S. farm exports, importing

approximately $2.6 billion. At the same time, Mexico was the largest supplier after Canada of U.S. agricultural imports, exporting nearly $2.6 billion worth of agricultural goods to the United States. During 1990, the United States imported an estimated 80-90 percent of Mexican agricultural exports and supplied 80 percent of Mexico's agricultural imports. The agricultural trade balance was in Mexico's favor during the 1960's and 1970's and was in favor of the United States for most of the 1980's. Mexico supplies the United States with tropical products and specialty crops such as coffee and tomatoes. Since 1982, Mexico has ranked among the top three suppliers of agricultural commodities to the United States, principally coffee, fruits and vegetables, and live cattle. The main U.S. farm exports to Mexico are grains and feeds (37.6 percent in value terms in 1990), animal products (25.9 percent), and oilseed products (12.7 percent).

The extent to which a U.S.-Mexico FTA would affect agriculture depends on several factors, including economic policies (both macro and agricultural) and trade policies. In many countries, trade policies are used to complement domestic economic policies. Since an FTA will deal with trade policies and trade barriers, an indication of what agricultural areas may be sensitive in an FTA can be gained by reviewing unilateral measures that may be considered current trade barriers.

## *Issues in the Forthcoming Negotiations*

Since 1985, Mexico has reduced its tariffs significantly as part of a major program to liberalize its economy, and because of its accession to the General Agreement on Tariffs and Trade (GATT) in 1986. Mexico's maximum tariff rate has been reduced to 20 percent from a 1985 maximum rate of 100 percent, falling well below the maximum GATT tariff rate of 50 percent. Mexico has also liberalized its import licensing requirements. Import licenses, formerly applied to all imports, have been retained only for selected items. As a result, Mexico's weighted average tariff on agricultural imports from the United States of 5 percent is now slightly lower than the U.S. weighted average agricultural import tariff on Mexico of 6 percent.

Nontariff measures, however, are likely to figure importantly in negotiations designed to improve the flow of trade between the two countries. Including all the measures described below, the share of U.S. agricultural imports from Mexico (excluding sugar) subject to nontariff barriers (NTB's) is 21 percent, less than the 28-percent share of Mexican agricultural imports from the United States that is subject to NTB's. [1]

U.S. nontariff measures that affect Mexican exports consist of minimum quality requirements on some horticultural imports, health, sanitary and phytosanitary regulations, and quotas. Mexican measures affecting U.S. exports consist of licensing requirements for many important agricultural imports, and, as in the United States, health, sanitary, and phytosanitary regulations for some commodities.

The Agricultural Marketing Agreement Act of 1937 (AMAA) authorizes marketing orders which give U.S. growers the authority to work together to develop dependable markets for their products. One authorized way to achieve this objective is to set minimum quality requirements for their crops shipped to market.

The AMAA also contains a provision (section 8e) which provides that whenever grade, size, quality, or maturity requirements are in effect under a Federal marketing order for any of 23 specified domestically grown fruits, vegetables, and nuts, the same or comparable requirements must be applied to imports of those commodities. Of those 23 commodities, 14 are currently under domestic marketing order regulations, and therefore are subject to section 8e import regulations.

In 1989, section 8e requirements covered 14 percent of total U.S. agricultural imports from Mexico on a value basis. The most significant U.S. imports from Mexico subject to section 8e are tomatoes, grapes, and onions.

Section 8e requirements are considered by Mexican officials to be one of the most important U.S. measures affecting horticultural imports from Mexico.

U.S. quality standards are not in themselves viewed as an impediment to trade, since Mexican exporters generally meet or exceed the quality standards imposed by the United States. The inclusion of new commodities under section 8e (5 were added under the 1990 FACT Act) and changing U.S. quality standards may generate uncertainty for Mexican exporters. This uncertainty—which can add to exporters' costs—is considered to be one of the trade issues arising from minimum quality requirements.

The United States maintains quotas on sugar, dairy, some meats, products containing sugar, and alcoholic beverages. None, however, represents an impediment to Mexican exports to the United States. Under the sugar quota program, Mexico is restricted to providing 0.3 percent of the total U.S. sugar import quota, or 8,030 tons in the current fiscal year. Mexico, however, has become a net sugar importer.

Dairy imports by the United States are limited under Section 22 of the Agricultural Adjustment Act and quotas on U.S. meat imports may be triggered under the Meat Import Act of 1979. Dairy and meat quotas have not been impediments to imports from Mexico, since Mexico is an

[1] Sugar is excluded from this statistic on U.S. imports from Mexico since most of it is sent to the United States for refining and reexported back to Mexico, and consequently is not subject to U.S. sugar quotas. Mexico is a net sugar importer, whose domestic refining capacity is insufficient to meet domestic demand.

importer of dairy products from the United States, and Mexico has not exported to the United States since 1983 the type of meat covered by the Act. Quotas on alcoholic beverages are high enough to be nonrestrictive on U.S. imports. U.S. quotas may be important for Mexican exports of foods with high sugar content, including cocoa and chocolate products. These quotas are on a first-come, first-served basis.

The most important NTB employed by Mexico is import licensing. Despite its major liberalization of import policies, Mexico retains licensing requirements for many agricultural imports from the United States, including corn and wheat, most nonfat dry milk, cheese, eggs, some fruit, and poultry meat. Since 1988, licenses have been removed for sorghum, soybeans and soy products, pears, and some dried milk products.

As the use of licensing requirements for agricultural imports fell, Mexico tended to increase tariffs. For soybeans and soy products, tariffs were increased when licensing requirements were removed. Meat tariffs were imposed in 1990 to help raise declining domestic prices. For some grains, evaporated milk, and poultry products, tariffs rose between 1988 and 1990 without an accompanying removal of license requirements.

## *Agricultural Sectors That Might Face Adjustments*

Because U.S. quotas and minimum quality requirements have not been impediments to Mexican exports, U.S. agricultural adjustment is likely to be in those industries that have been protected by high tariffs. Elimination of U.S. tariffs under an FTA will make prices of competing Mexican products fall in the U.S. market relative to prices for U.S. goods. Mexico's cost advantage reflects its lower costs of production for some commodities, particularly in the labor-intensive fresh and processed horticultural category.

Sectors in which U.S. tariffs are higher than the average U.S. agricultural tariff are fresh and processed fruits and vegetables and processed meats.

The most valuable vegetable crops imported from Mexico that now face high U.S. tariffs during the U.S. marketing season are asparagus (25 percent), cucumbers (16 percent), onions (10 percent), and tomatoes (10 percent). Mexican fresh fruits facing the highest U.S. tariffs are cantaloupes and watermelons, which are subject to a 35-percent tariff during the U.S. marketing season. U.S. tariffs on most frozen processed horticultural items are 17.5 percent, but most frozen orange juice concentrate is subject to a 28-percent tariff. In general, U.S. tariffs on horticultural products tend to increase according to the degree of processing.

Under an FTA, Mexican adjustment will follow from removal of both tariffs and licensing restrictions. Sectors in which Mexican tariffs are higher than the weighted average Mexican agricultural tariff are live animals, food grains, dairy, and most processed food categories. Mexican tariffs, like those on U.S. horticultural products, tend to increase with the degree of processing.

Mexican agricultural adjustment may be most significant in corn and wheat, which are major Mexican imports from the United States, and which are both presently protected by import licensing. Because they are also major crops in domestic production and benefit from agricultural support programs, adjustments in these sectors will depend on how the FTA negotiations treat domestic farm policies in the two countries. *[John E. Link and Mary E. Burfisher (202) 219-0680]*

# Energy, Agriculture, and the Middle East Crisis

The world consumes close to 7 billion metric tons of energy per year, in oil equivalent terms, up from less than 2.7 billion three decades ago. This represents an annual growth rate of 4.8 percent in the 1960's and 1970's, but slowing to 3 percent in the 1980's, after decreasing during the oil crisis years of 1973-74 and 1978-81. The price of oil and other energy sources more than doubled in each crisis. While slower than in the 1960's, the current growth of energy production and consumption is still impressive (table 1 and fig. 1).

Oil remains the principal source of energy, accounting for over 42 percent of total energy production, but down from 51 percent in the 1970's (table 2). Next are coal and natural gas. Hydroelectric and nuclear power represent relatively minor sources, globally at least. The share of nuclear power jumped from a mere 0.3 percent per year in 1970 to 2 percent today.

World oil production grew from less than 20 million metric tons per year (MT/y) at the turn of the century to nearly 3.3 billion today. As the price of oil skyrocketed during the 1974 and 1979-81 crises from $1.50 per barrel in 1970 to $34.50 in 1981, demand declined and production fell to 2.8 billion MT/y.[1] The price fell through 1988 to the average of $13.77 per barrel as supply kept increasing beyond demand, to reach 3.27 billion MT/y in 1990.

1 While oil production is usally given in metric tons per year (MT/y) or barrels per day (b/d), oil prices are nearly always quoted per barrel. One metric ton of oil equals 7.33 barrels.

The Iraqi invasion of Kuwait last August caused the price to shoot up briefly. However, though the Middle East war shut off both Iraqi and Kuwaiti production, other producers, particularly in the Gulf, compensated by increasing their production. Saudi Arabia alone nearly doubled its production from 5.5 million barrels per day (mbd) to over 8 million.

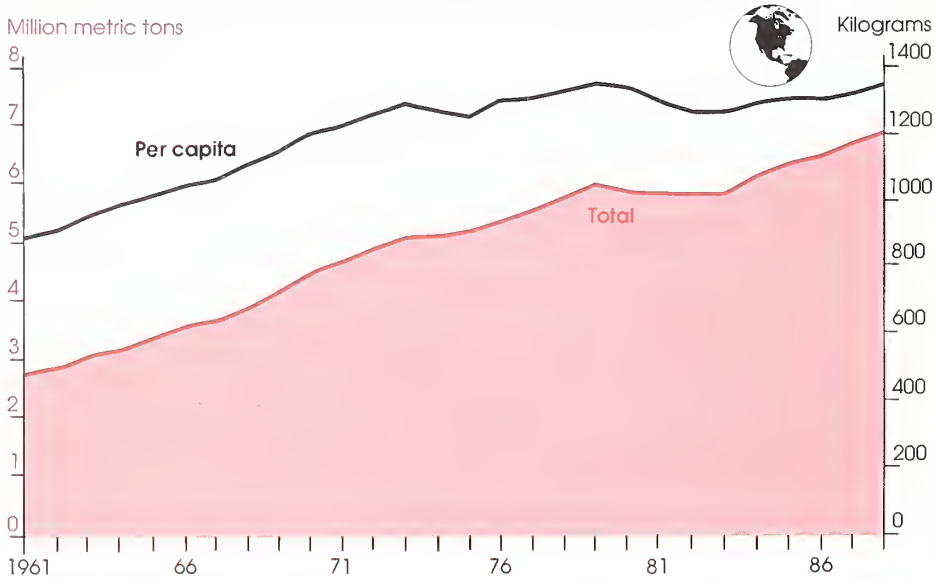
Oil production is concentrated in well-defined deposits around the globe, chiefly in North America (Canada, Mexico, and the United States); Venezuela in South America; the USSR; the North Sea (Norway and the United Kingdom); the Arabian Gulf (Iran, Iraq, Kuwait, Qatar, Saudi Arabia, and the United Arab Emirates); Africa (Algeria, Egypt, Libya, Nigeria); China; and Indonesia. Over 63 percent of proven oil reserves of over 900 billion barrels are concentrated in the Arabian Gulf, with Saudi Arabia controlling 28 percent, and Iraq and Kuwait together 21 percent. Thus, these three countries control about 50 percent of total world known oil reserves.

Another potentially large producer in the region, Iran, controls about 7 percent of world oil reserves (table 3).

Of the world total current crude oil production of over 60 mbd (close to 3.3 billion tons per year), just over 24 mbd is currently exported. The Gulf states, again, control nearly 40 percent of world crude oil exports, in which the share of Iraq and Kuwait is 11 percent, Saudi Arabia's is 12 percent, Iran's is 7 percent, and the United Arab Emirates' is 5 percent. Other principal exporters include Mexico, Venezuela, Nigeria, United Kingdom, USSR, and Indonesia. Oil production and consumption trends indicate that the importance of the Gulf states in the total world oil supply, and in the total world energy picture, is likely to continue to grow.

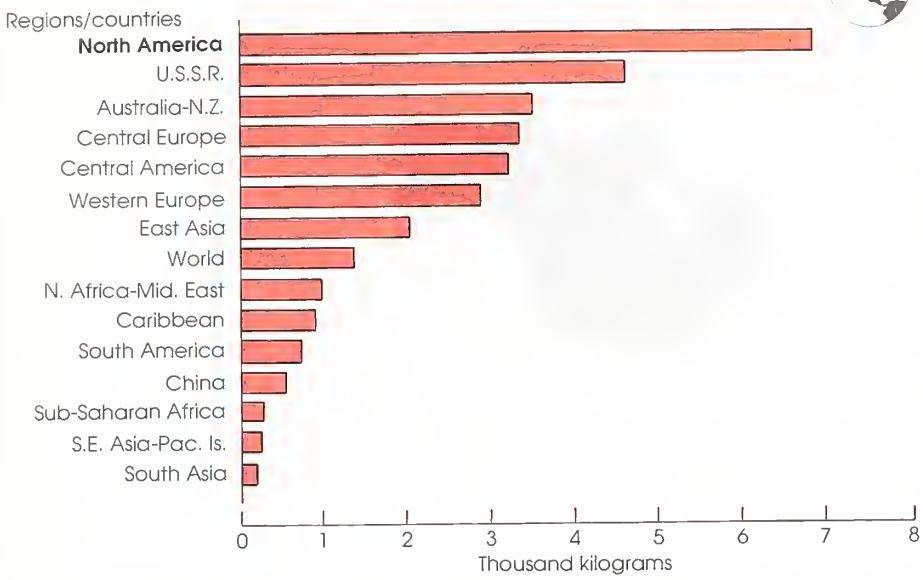
The largest oil importers are the United States, Japan, and Western Europe (principally Germany, France, and Italy). The United States accounts for over 35 percent of world imports (principally from Latin America and Canada, and some from the Arabian Gulf states). Western Europe accounts for 34 percent, and Japan for 23 percent of world imports. Most Western Euro-

FIGURE 1 **World and Per Capita Energy Consumption Rising[1]**




[1]Oil equivalent.
Source: (3).

FIGURE 2 **North America Leads Per Capita Energy Use[1]**




[1]1968-88 average, oil equivalent.
Source: (3).

**Table 1—World commercial energy production, selected years, 1970-90**

| Year | Crude oil 1/ | Coal and lignite | Dry natural gas | Hydroelectric power | Nuclear power | Total |
|---|---|---|---|---|---|---|
| | | | *Million metric tons oil equivalent* | | | |
| 1970 | 2,360 | 1,401 | 857 | 92 | 14 | 4,724 |
| 1975 | 2,751 | 1,532 | 1,024 | 125 | 31 | 5,463 |
| 1980 | 3,129 | 1,758 | 1,230 | 153 | 60 | 6,330 |
| 1985 | 2,872 | 2,075 | 1,468 | 175 | 125 | 6,715 |
| 1988 | 3,142 | 2,394 | 1,744 | 181 | 157 | 7,618 |
| 1989 | 3,183 | — | — | — | — | — |
| 1990 | 3,269 2/ | — | — | — | — | — |

— = Not available. 1/ Includes associated natural gas liquids. 2/ Preliminary.
Source: (4, 5).

**Table 2—Composition of world energy production, 1986-88 average**

| Source | Production | | Share | |
|---|---|---|---|---|
| | 1970-77 | 1986-88 | 1970-77 | 1986-88 |
| | *Million mtoe 1/* | | *Percent* | |
| Crude oil and ngl 2/ | 2,503 | 3,054 | 50.7 | 42.2 |
| Coal and lignite | 1,407 | 2,243 | 28.5 | 31.0 |
| Dry natural gas | 914 | 1,613 | 18.5 | 22.3 |
| Hydroelectric power | 98 | 179 | 2.0 | 2.5 |
| Nuclear power | 16 | 145 | .3 | 2.0 |
| Total | 4,938 | 7,234 | 100.0 | 100.0 |

1/ mtoe = Metric tons of oil equivalent. 2/ ngl = Natural gas liquids.
Source: (5).

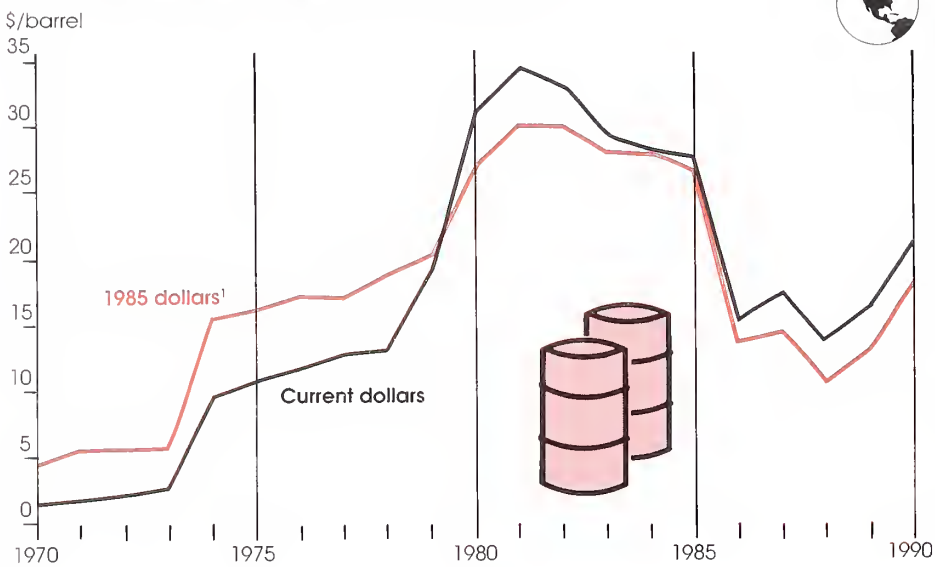
pean and Japanese imports originate in the Gulf states. Until recently, the Central European countries imported most of their oil needs (about 8 percent of world imports) from the USSR. But, as Soviet production declines and domestic consumption increases, these countries have to rely increasingly on imports from other sources, principally in the Middle East. Iraq in particular has relied on Central European countries for technical services and industrial goods in exchange for oil. The Gulf war, therefore, affected very negatively the region's energy situation.

Apart from being one of the largest importers of oil, North America, and principally the United States, is also the heaviest user of energy or about 7,000 kilograms (kgs) oil equivalent per person. This is down 400 kgs since 1970, implying some improvement in energy use efficiency. The next largest energy user is the USSR, with 4,700 kgs per person, up from 2,877 kgs in 1970. The rest of Europe uses about 2,960 kgs of energy per person, up from 2,690 kgs two decades ago. The smallest, but definitely not most efficient, users are the developing regions of Africa, and South and Southeast Asia, with about 200 kgs per person (fig. 2).

Agricultural production uses about 3 percent of total energy consumption, though this share may vary from 2.6 percent in highly industrialized countries, such as the United States, to 6 percent in the developing countries. However, if transportation, processing, and marketing are taken into account, the agricultural sector uses from 16 to 20 percent of all energy, depending on the level of development. Most energy used in agriculture is for irrigation and fertilizer manufacture, about 36 percent each of the total use for agriculture. Crop drying, tillage and seeding, and transportation take the rest.

Since agricultural production pays a relatively modest share of the total energy consumed in any country, a drastic energy price increase is likely to be felt indirectly through slower economic growth that dampens the

FIGURE 3 **Crude Oil Prices Well Below Record**




[1]Deflated by IMF export unit value, 1985 = 100.
Sources: (2, 6).

**Table 3—World crude oil proven reserves and exports**

| Regions and selected countries | Reserves 1/ (1989) | Exports (1987) | Percent of total— Reserves | Percent of total— Exports |
|---|---|---|---|---|
| | *Billion barrels* | *Billion barrels/day* | *Percent* | |
| North America | 86.8 | 2.1 | 9.4 | 8.7 |
| United States | 26.8 | -4.5 | 2.9 | na |
| Central & S. America | 69.8 | 1.4 | 7.6 | 5.8 |
| Europe 2/ | 19.8 | 2.6 | 2.1 | 10.7 |
| USSR | 60.9 | 2.7 | 6.6 | 11.1 |
| Middle East 3/ | 584.5 | 9.5 | 63.3 | 39.3 |
| Iraq | 99.0 | 1.7 | 10.7 | 7.0 |
| Kuwait | 98.6 | 1.0 | 10.7 | 4.0 |
| Saudi Arabia | 257.5 | 2.9 | 27.9 | 12.0 |
| North Africa | 35.5 | 1.9 | 3.8 | 7.8 |
| Sub-Saharan Africa | 23.4 | 2.0 | 2.5 | 8.3 |
| Far East and Oceania | 43.0 | 2.0 | 4.7 | 8.3 |
| World | 923.7 | 24.2 | 100.0 | 100.0 |

na = Not applicable. 1/ World Oil, 209(2), 1989. 2/ Excluding USSR. 3/ Including Egypt.
Source: (4, 5).

demand for agricultural products and exports, rather than a direct increase in the cost of production. The whole food sector, however, is much more vulnerable.

The rate of economic expansion in the principal developing countries has been moderate in recent years, and has tended to slow, except in the European Community. Energy consumption, however, after slowing during the early 1980's following the earlier oil crises, grew at an annual rate of 3 percent in the second half of the 1980's as world oil prices steadily declined through June 1990, until they reached, in real terms, their 1974 level. They briefly shot up from about $14 to $36 a barrel last August, after Iraq's invasion of Kuwait, but by January dived again to about $18 a barrel.

Although world oil stocks are high—3.35 billion barrels at the beginning of January 1991 against 3.24 billion tons in January 1990—the International Energy Agency authorized the release of 2.5 mbd from government and company stocks to world markets to remove any uncertainty over supply resulting from the Gulf war (*1*). The United States is contributing the largest portion of these supplies, 1.1 mbd, from its Strategic Petroleum Reserve. Thus, in the short run, given the present state of the world economy and oil availability on world markets, no energy shortages or drastic energy price fluctuations are expected.

In the longer run, beyond the horizon of the next few months, there will be pressure to raise oil prices because of a continuing decline in Soviet oil production and the fact that the ruined Iraqi and Kuwaiti oil fields are likely to remain out of production for at least a year

On the other hand, the expanded production capacity in the Gulf states and elsewhere will be difficult to curtail, and the depletion of the Gulf countries' treasuries by war expenses, as well as the expenses needed to clean up Gulf oil spills caused by Iraq, is likely to force the region to continue pumping oil at the current expanded level.

On balance, therefore, oil supplies are likely to be plentiful with downward pressure on energy prices. *[Francis Urban (202) 219-0717]*

# Central Europe's Agricultural Performance in 1990 and Outlook for 1991

In general, 1990 was a rather difficult year for Central European agriculture. There were some bright spots, however: Poland realized a record grain harvest for the second year in a row and has refused further shipments of donated grain. East Germany (since unified with West Germany) realized a near record grain harvest, and Romania has seen a dramatic turnaround in its livestock sector.

But overall, gross national product of the region declined by an estimated 11 percent during 1990, after a 0.3-percent decline in 1989, and regional agricultural output was down as well. Livestock producers were squeezed between high feed prices and declining consumer demand. The crop sector was hit hard by a serious drought in the southern countries—Bulgaria, Romania, Hungary, and Yugoslavia. Coarse grain output was hit especially hard: the shortfall is so bad that Hungary and Bulgaria are receiving shipments of donated corn.

## Drought Cuts Crop Production Sharply

Because of drought in Yugoslavia, Bulgaria, Hungary, and Romania, 1990 grain production in the six Central European countries came to only 94 million tons, down from 101 million in 1989.[1] Wheat output was only slightly affected—1990 output fell from 40.2 million tons in 1989 to 39.8 in 1990. However, coarse grain production fell 10 percent to 24 million tons, and corn output fell 20 percent. Yugoslavia's corn crop, at 6.6 million tons, was barely more than half the 1986 record and the worst harvest in 20 years. Hungary, normally a small corn exporter, will be importing corn during 1991.

Bulgarian authorities anticipate a grain shortfall of 1.5 million tons. Bulgaria has virtually no foreign exchange with which to import this volume. The country is in dire economic straights and is desperately awaiting food aid shipments from the United States and the European Community.

Total Central European oilseed production in 1990 amounted to 4.8 million tons, down from 5.5 in 1989. Part of the decline resulted from the reduced Polish rapeseed harvest. But also, the primary producers of both soybeans and sunflowers are the four southern countries that were affected by the drought.

## Poland Has Record Grain Crop

In contrast to most of the rest of the region, Poland realized a record grain crop of 27 million tons, up 2 percent from 1989's record. However, that was the only bright spot in Poland's agricultural performance last year. Livestock production was down, as were most nongrain crops. Rapeseed production amounted to 1.2 million tons, down from 1.6 in 1989, but was still respectable. Reasons for the reduced harvest were less planted area, due to an unfavorable price ratio, an anticipated drop in demand on the part of livestock producers, and a cutback in the use of inputs. More seriously, fruit production was down almost 25 percent because of frost damage.

Moreover, Polish farmers are holding increasing surpluses of wheat, potatoes, and sugarbeets which they have been unable to market. Purchasing is still mostly in the hands of the old state-owned monopolies. Squeezed by high costs and reduced consumer demand, these organizations have cut back on purchases. The only alternative for most farmers is to market their output directly in the open markets or on the city streets: Polish authorities estimate that at least 30 percent of pork production is being marketed this way. The transaction costs of such direct marketing are obviously quite high.

## Livestock Continues Its Decline

Regional output of red meat is forecast to decline by nearly 8 percent in 1990, after a 3-percent decline in 1989. Output is down 5 percent in Poland. The problem everywhere has been declining profitability due to high feed prices and reduced subsidies. This situation is affecting not only red meat production, but also poultry and egg output, which until this year had been much stronger than the red meats.

Romania is a significant exception to the pessimistic outlook for livestock. Beef and veal production is expected to increase from 210,000 tons in 1989 to 325,000 in 1991. Similar increases are expected in pork production. At the same time, only a slight increase is expected in cattle and hog inventories. The rise in meat output will be due mostly to increased slaughter weights. Previously, producers were slaughtering animals at exceedingly low weights as a result of increasingly intense pressure from the Ceaucescu Government to meet unrealistic output quotas.

The outlook for 1991 is uncertain. Earlier in the year, it appeared that conditions were favorable for a rebound of hog inventories: namely feed prices were expected to moderate in some of the countries. However, at present the only country where an expansion of hog inventories is clearly taking place is Poland. In that country, because of the grain surplus, the price ratio between hogs and feed is quite favorable at present and farmers are rebuilding inventories. However, Hungary, Yugoslavia, and particularly Bulgaria are all likely to face tight feed supplies as a result of the drought. Yugoslavia's feed

[1] Excluding henceforth former East Germany and Albania.

prices are likely now to remain high, and political instability will likely also sap the confidence of livestock breeders. Last summer the Hungarian Government sharply reduced export subsidies for meat products, and producers are now in serious difficulties. Bulgarian authorities have warned of massive distress slaughter if the anticipated donations of feed grains do not arrive soon.

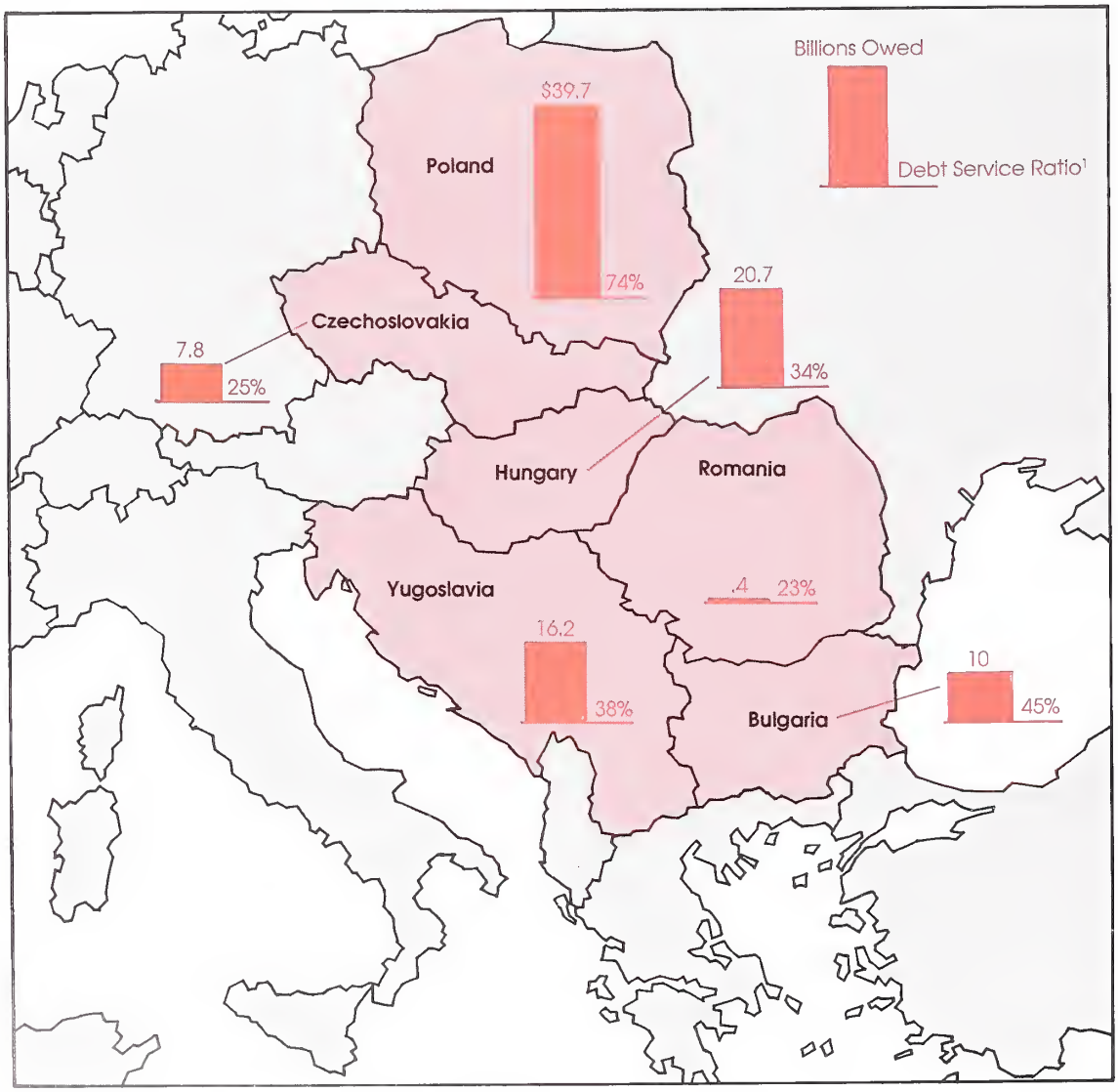
Cattle inventories, which have been on a downward trend since 1979, are projected to decline further throughout the region. Reduced consumer demand for beef and declining profitability of dairy production have also been problems.

## Clouded Outlook for 1991

The countries of Central Europe are facing many uncertainties. All are carrying relatively heavy hard currency debt burdens in varying degrees, which limit governments' spending options. There could be some major changes in land tenure: plans are underway in several of the countries to privatize the state and cooperative farms and redistribute some of the land held by these farms to private farmers (see accompanying article on page ). Because many of the countries are eliminating price controls and reducing subsidies, farm managers could be facing a major realignment of prices.

Finally, there will likely be significant changes in the markets for Central European agricultural exports. The USSR is the largest market for agricultural products from Central Europe, and the future of that market

**Central Europe Owed Almost $95 Billion in 1989**




[1]Principal and interest payments as percent of foreign exchange earnings.

is uncertain. All intra-CEMA[2] trade is supposed to be conducted on a hard currency basis and at world prices starting this year.

Furthermore, the USSR is in such a desperate situation it may not have the money to import the amounts that it did in the past. In anticipation of this, the Central Europeans are trying to develop alternative markets. That they are interested in multilateral trade liberalization is attested by Hungary's membership in the Cairns Group.

These developments will inevitably have some effects on agricultural production patterns in the region. However, it is unlikely that they will become apparent in 1991. There are no indications of any significant changes in sowing plans, so, assuming normal weather in 1991, there should be an increase in crop production. It is unlikely that there will be much improvement in the livestock sector this year. Feed will be in tight supply because of the drought. There could, however, be a turnaround in that sector in 1992.

*[Nancy J. Cochrane (202) 219-0621]*

[2] The member countries of the now dissolved Council for Mutual Economic Assistance (CEMA) were the USSR, Bulgaria, Cuba, Czechoslovakia, Hungary, Mongolia, Poland, Romania, and Vietnam.

**International commodity prices**

| Year and month | Wheat | | | | Corn | | Soybeans | Soyoil | Soymeal 44% | |
|---|---|---|---|---|---|---|---|---|---|---|
| | U.S. 1/ | Argentina 2/ | Canada 3/ | Australia 4/ | U.S. 5/ | Argentina 2/ | U.S. 6/ | U.S. 7/ | U.S. 7/ | Hamburg 8/ |
| | *Dollars per metric ton* | | | | | | | | | |
| 1980 | 176 | 203 | 192 | 176 | 129 | 159 | 272 | 522 | 217 | 271 |
| 1981 | 176 | 190 | 194 | 175 | 135 | 139 | 272 | 464 | 223 | 269 |
| 1982 | 161 | 166 | 165 | 160 | 110 | 109 | 233 | 404 | 197 | 233 |
| 1983 | 158 | 138 | 167 | 161 | 137 | 133 | 269 | 518 | 222 | 255 |
| 1984 | 153 | 135 | 166 | 153 | 138 | 132 | 271 | 678 | 184 | 210 |
| 1985 | 137 | 106 | 173 | 141 | 114 | 103 | 214 | 596 | 140 | 171 |
| 1986 | 117 | 88 | 161 | 120 | 89 | 83 | 200 | 361 | 174 | 197 |
| 1987 | 114 | 89 | 134 | 115 | 77 | 80 | 204 | 349 | 194 | 215 |
| 1988 | 146 | 125 | 178 | 150 | 107 | 105 | 287 | 519 | 259 | 285 |
| 1989 | 171 | 151 | 202 | 176 | 112 | 111 | 260 | 446 | 239 | 256 |
| 1990 | 137 | 107 | 158 | 145 | 110 | 109 | 229 | 501 | 187 | 213 |
| Jan. | 169 | 143 | 193 | 175 | 106 | 105 | 223 | 431 | 189 | 221 |
| Feb. | 162 | 137 | 189 | 165 | 107 | 105 | 222 | 453 | 178 | 216 |
| Mar. | 157 | 123 | 191 | 161 | 110 | 106 | 226 | 505 | 181 | 211 |
| Apr. | 162 | 124 | 179 | 165 | 119 | 113 | 229 | 511 | 186 | 217 |
| May | 151 | 122 | 171 | 159 | 122 | 116 | 235 | 540 | 195 | 215 |
| June | 136 | 119 | 165 | 149 | 121 | 122 | 229 | 550 | 187 | 206 |
| July | 125 | 112 | 148 | 134 | 115 | 127 | 232 | 541 | 189 | 208 |
| Aug. | 118 | 95 | 139 | 127 | 110 | 127 | 236 | 546 | 189 | 206 |
| Sept. | 115 | 79 | 130 | 125 | 102 | 94 | 237 | 527 | 194 | 212 |
| Oct. | 116 | 79 | 128 | 126 | 100 | 98 | 233 | 487 | 190 | 227 |
| Nov. | 114 | 74 | 126 | 129 | 101 | 97 | 224 | 457 | 181 | 210 |
| Dec. | 114 | 74 | 132 | 130 | 104 | 98 | 225 | 469 | 182 | 211 |

1/ No. 2 hard winter, ordinary protein, f.o.b. Gulf ports. 2/ F.o.b. Buenos Aires. 3/ No. 1 western red spring, 13.5% protein, in store Thunder Bay. 4/ July-June crop year, standard white, f.o.b. 5/ U.S. No. 3 yellow, f.o.b. Gulf ports. 6/ U.S. No. 2 yellow, f.o.b. Gulf ports. 7/ Decatur. 8/ Hamburg, ex-mill.

# A New Environment for Central European Agricultural Trade

by
Nancy J. Cochrane*

**Abstract:** *Trading patterns of Central Europe are expected to change as foreign trade organizations lose their monopolies and currencies become more convertible. This year all trade among members of the former Council for Mutual Economic Assistance (CEMA) will be on a hard currency basis. The reorientation of Central European trade is likely to be gradual rather than dramatic, however, and the search for markets in the West difficult.*

**Keywords:** *Central Europe, agricultural trade, CEMA, currency convertibility.*

Profound changes are expected in Central European patterns of agricultural trade in the coming decade. In part, these changes will be the result of changing production patterns as these countries begin to produce according to their comparative advantage. In addition, the traditional state trading structures are being dismantled, with individual enterprises increasingly able to search out their own foreign partners. Finally, an important realignment of East European trade is already underway and will certainly continue. In January 1991, the Council for Mutual Economic Assistance (CEMA) officially dissolved itself. Future trade among the former CEMA countries will take place on a radically different basis, and the region will be in search of new partners.

## Reform of the State Trading System

The traditional centrally planned economy was characterized by a state monopoly on foreign trade. Imports and exports were decided by central authorities, not on the basis of comparative advantage, but on the basis of central balances used to predict which commodities would be in deficit and which would be in surplus. All trade was conducted by the Ministry of Foreign Trade (MFT) through a limited number of monopoly Foreign Trade Organizations (FTO).

Under this system, the production and end-user enterprises had no role in decisionmaking and were completely isolated from world markets. End-user enterprises could register import needs through their respective industrial ministries, which could then submit import requests to the MFT and the central planning authorities. For the imports they were authorized to receive, enterprises paid the domestic wholesale price for a comparable good, which might have little relation to the true cost in foreign exchange. Moreover, the system also provided strong disincentives to export. Production for export was subject to higher quality standards and greater outlays for packing and transport, and the extra costs made it more difficult for the enterprise to attain profitability targets, since prices received by the enterprises were the same whether the product was exported or sold domestically.

During the 1980's, the Communist governments of Central Europe began to make changes in this system as the need to boost exports became more critical. The general goal of the reforms was to make production enterprises more responsive to world market conditions. Typical reforms included the dual subordination of the FTO's to the MFT and the appropriate industrial ministry and sometimes the attachment of an FTO to a production enterprise. Other reforms included measures allowing some production enterprises to engage directly in foreign trade, the introduction of export profitability as a plan indicator, and attempts to impose a uniform exchange rate and align domestic prices with world prices. Also, in several countries, exporting enterprises were allowed to retain a portion of their hard currency earnings, which they could use to import needed inputs.

However, these changes tended to be applied at the margin and did not have much effect on trade in basic agricultural commodities. These goods tended to be classified as strategic and their trade continued to be subject to central balances. Both Hungary and Poland, for example, granted trading rights to a large number of production enterprises, but grain trade continued to be controlled by Rolimpex in Poland and the State Grain Trust in Hungary. Moreover, since the changes were intended to boost exports and improve the hard currency trade balances, imports continued to be tightly controlled.

In the last year and a half, the six Central European countries have taken steps toward the full dismantling of the state trading apparatus.[1] The monopoly status of the FTO's has been abolished (the FTO's in Yugoslavia never had such a monopolistic position) and more and more enterprises are engaging directly in foreign trade. The trading environment is probably the most liberal in Poland, Yugoslavia, and Hungary. All three allow most goods to be traded freely. For example, 87 percent of Hungarian imports were liberalized in 1990, and 93 percent are to be free in 1991.

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[1] A seventh, Albania, is not considered here. The former East Germany was unified with West Germany in 1990.

But, just as in the past, these changes have been slower to penetrate agricultural trade. In both Hungary and Poland, an increasing number of enterprises are trading directly in fruits, vegetables, wines, and other specialty products. Hungarian cooperatives are exporting poultry directly. However, trade in many bulk agricultural products, especially grains, is still subject to government controls and is largely dominated by the same FTO's that controlled that trade in the past. Although Hungary has abolished the State Grain Trust, and its branches now operate as independent trading companies, the Government continues to maintain control over most grain trade. The newly independent trading enterprises must still apply for licenses to import or export. In Poland, most meat trade is still carried out by Animex because, it is said, only Animex can guarantee required standards in exported meat. In Yugoslavia, trade in grains, meats, cotton, and certain other products is still under quota.[2]

## *Currency Convertibility*

A key characteristic of foreign trade under the Communists was currency inconvertibility. In order to prevent unauthorized trade, which would upset carefully constructed central balances, authorities also had to maintain strict control over holdings of foreign exchange. Exchange rates were set by the central authorities. Official exchange rates were generally grossly overvalued, and exchange rates often varied between imports and exports and from one commodity to another. The system insulated the East European countries from world markets and prevented specialization. Today, currency inconvertibility acts as a major impediment to badly needed western investment.

All the new Central European governments recognize the high cost of their currency inconvertibility and are taking steps toward achieving convertibility. At the beginning of 1990, both Poland and Yugoslavia made their currencies internally convertible.[3] Czechoslovakia made its currency internally convertible on January 1, 1991, but with some restrictions, and has devalued the koruna in preparation for that (from 17 to 24 koruny to the dollar). The Hungarians have not yet set out a specific timetable, but officials hope to achieve that goal by 1992. Bulgaria and Romania have also devalued their currencies and introduced hard currency auctions in anticipation of eventual convertibility, but have further to go before they can achieve that goal.

Yugoslavia and Poland have both been successful in their efforts to achieve convertibility. Both have achieved stable exchange rates: Poland's was pegged at 9,5000 zlotys to the U.S. dollar, and Yugoslavia's was pegged at 7 dinars to the Deutschemark as of February 1991. Neither government has felt pressure to alter these exchange rates, and both have seen impressive growth in their hard currency reserves. But there are some important differences in the two countries' experiences and convertibility.

*Poland.* The Polish Government maintained an artificially high official exchange rate right up to the end of 1989. However, it began taking steps towards convertibility when it legalized the black market in foreign currency for private individuals and initiated hard currency auctions for enterprises. During the fall of 1989, the official and black market exchange rates began to converge quite rapidly. The government devalued the official rate several times during that period, while the legalization of the black market increased the supply of foreign currency and began to drive that rate down.

In January 1990, the Polish Government established internal convertibility for the zloty and devalued the currency further to a rate of 9,500 zlotys to the dollar. Initially the zloty was considerably undervalued, but since then Polish prices have gone up 2.7 times (according to calculations by PlanEcon) and the rate is probably now closer to a realistic one. The rate has been very stable; reserves have been increasing and by January 1991, the Poles had accumulated a trade surplus of $4.2 billion.

*Yugoslavia.* The Yugoslav dinar had been subject to frequent devaluations since the early 1980's, when inflation began to accelerate. While the currency was not convertible until 1990, the exchange rate was close enough to a realistic one that the black market premium was never more than 20-30 percent. Under the IMF-mandated program implemented in 1988, the dinar was to be constantly devalued in accordance with the anticipated inflation rate.

Ironically, this policy of constant devaluation bears much of the blame for the hyperinflation that hit Yugoslavia in 1989. The effect of the policy was that the dinar was always undervalued, making imported raw materials more expensive and contributing to domestic price rises. In addition, because the interest on citizens' hard currency

[2] During 1990, Yugoslav authorities were manipulating the quotas to force domestic producers to lower their prices. Last year the Government authorized intervention imports of meat and sugar for this purpose. Substantial amounts of pork were imported for this purpose. However, in the case of sugar, just the threat of intervention imports was enough to force domestic prices down, and in the end no sugar was imported.

[3] Internal convertibility in the case of both Yugoslavia and Poland means that citizens and enterprises are allowed to purchase as much foreign currency as they need within the borders of the country. However, foreigners are not allowed to buy foreign currency (with an exchange receipt) and in both countries it is forbidden to carry currency out of the country. Neither currency is traded in banks outside the country.

bank accounts was payable in dinars, each devaluation required the printing of new money in order to pay the interest.

Because of this problem, when the dinar became convertible in January 1990, it was deliberately overvalued. In the first half of 1990, this exchange rate policy was quite successful. Although merchandise trade continued to be in deficit, foreign exchange reserves increased from $6 billion at the beginning of 1990 to over $10 billion in July. The rise in reserves came from positive balances in services and capital flows. In addition, private citizens were turning in large amounts of foreign currency to the banks in exchange for dinars.[4]

However, the situation appeared to be deteriorating by the end of 1990. The convertible currency trade deficit continued to widen: the cumulative deficit during January-October 1990 was $2.8 billion, up from $600 million in the same period of 1989. During September and October, reserves had declined by $122 million from the summer peak (*2*). Exporters have been protesting that the overvaluation of the dinar has been hurting them. However, the Government remains adamant in its resolve to maintain the exchange rate, insisting that a devaluation would rekindle inflation. It has responded to the protests of exporters by granting export subsidies.[5]

## *The Disintegration of CEMA*

On January 5, 1991, CEMA was officially dissolved and replaced by an Organization for International Economic Cooperation, which will have merely a consultative role. Prior to that, it had been decided that as of January 1991, all intra-CEMA trade would go on a hard currency basis. The longer term impact of these moves could be a significant realignment of Central European trade patterns. In the immediate future, a large portion of Central European trade will continue to be with former CEMA partners, just because of the difficulties in building new markets. However, there will be some big adjustments to make in the short term. The most worrisome result to the Central Europeans is the anticipated rise in the price of imported oil. But there is also the possibility that Central European goods will become less competitive on the Soviet market. In the longer term, the Central Europeans hope to reorient their trade toward Western Europe.

Traditionally, intra-CEMA trade was carried out through bilateral agreements (*4*). In general, the division of labor was such that the Central European countries supplied machinery, raw materials, and agricultural products in return for oil and natural gas from the USSR.

This trade was valued in *transferable rubles*, somewhat of a misnomer, since they were not transferable. The transferable ruble was not a true currency; it was merely an accounting device. Consequently, intra-CEMA trade could be carried out only on a bilateral clearing basis. Any surpluses built up with one partner could not be used to finance a deficit incurred with another.

There has been considerable debate among economists as to who was subsidizing whom under these trading arrangements. It would appear that the advantage shifted from one partner to another several times during the history of CEMA trade and depended mainly on the pricing formula and the world price of oil.

Until 1975, prices of goods traded among CEMA partners were fixed in 5-year agreements based on average world prices during the previous 5-year period. This system worked well until the first oil shock of 1973, when world oil prices rose 2.5 times. At that time, the Soviets realized they were heavily subsidizing their CEMA partners, since they were delivering high-priced oil in exchange for low-quality machinery. For this reason, the pricing formula was changed in 1975 such that prices were set according to a 5-year moving average. For a while, the Central Europeans continued in effect to pay below-world prices for Soviet oil. However, by 1986, the terms of trade shifted in favor of the Soviets, as world oil prices fell but the 5-year moving average yielded prices above that level. Central Europe began to accumulate rather substantial ruble debts to the USSR as a result. The most severely affected was Poland, which owed 6 billion rubles to the USSR by 1988.

In the spring of 1989, the terms of trade shifted again, and the Central Europeans began to build up sizable surpluses in their Soviet trade. This development coincided with the first stirrings of democracy in Hungary and Poland. Articles began to appear in the press of both countries complaining that the CEMA trade structure was outmoded and was hindering their economic development. The Hungarians began demanding that their trade surpluses be settled in hard currency, and cut back deliveries to the Soviets sharply in order to avoid building up more surpluses. With the fall of the Communists in Czechoslovakia, similar sentiments began to be voiced in that country's press.

This growing discontent with the rigid CEMA trading structures culminated in the Sofia meeting in the fall of 1990, at which it was agreed in principle that all intra-CEMA trade would go on a hard currency basis as of 1991. Since then, separate agreements have been signed

[4] One reason for this was that as of January 1990 interest on foreign exchange bank accounts was paid in foreign currency.

[5] Exchange rate policy is a source of friction (one of many) between the northern republics of Croatia and Slovenia and the southern republics. Croatia and Slovenia produce the largest shares of Yugoslavia's exports, and they are suffering the most from the overvalued exchange rate. It is the central government in Belgrade that insists on maintaining the current exchange rate.

among the individual countries making that shift official. The January dissolution of CEMA marked the final denouement of the transferable ruble and the intra-CEMA trade agreements.

These individual trade agreements still specify lists of products to be exchanged (so-called "indicative lists"), but they will be valued in world prices in convertible currencies. It is not clear, however, how or to what extent these lists will be enforced, or who has the authority to enforce them. Independently of these formal agreements, the Central European governments are negotiating agreements with individual republic governments, and individual firms are signing direct contracts with Soviet firms. The current power struggle between Moscow and the republic interests makes the future of Central Europe-Soviet relations particularly uncertain: the Central Europeans complain that they don't know whom to deal with.

Furthermore, at least in the short term, this change in intra-CEMA trade will be expensive for the Central Europeans. They are currently paying about half the world price for oil, for example. The Czechoslovakians figure that the price they will have to pay for oil will rise from 91 rubles per ton to $135, or, at the current exchange rates ($1 = 24 koruny), from 972 koruny to 2,450. If the koruna is devalued, the price will be even higher. The Poles figure that natural gas prices could triple, and oil prices double. These higher prices for fuel could effectively wipe out the trade surplus Poland accumulated in the last 2 years, although with world oil prices settling back down the situation has eased somewhat.

The Central Europeans are hoping to soften this shock by converting their ruble surpluses into dollars. In bilateral agreements signed last spring, the Soviets agreed to convert the Hungarian surpluses (which now, according to PlanEcon, total over 1 billion rubles) at a rate of $0.92 per ruble and the Czechoslovak surpluses at a rate of $1.25 per ruble. The Soviets and the Hungarians have agreed that the ruble debt will be paid in the form of credits for the higher priced fuel the Hungarians would have to buy in 1991. However, the Soviets are now demanding that the conversion of this ruble debt be spread out over 5 years instead of taking place entirely during 1991. This issue is still being debated.

The new basis of intra-CEMA trade will also adversely affect Central European enterprises that relied heavily on the Soviet market. Hungarian firms supplying transport and telecommunications equipment are already suffering from government-ordered cutbacks in exports to the USSR in 1990. The Ikarus bus factory in Hungary, for example, may be forced to lay off 8,000 workers. Similar difficulties will beset many enterprises that produce low-quality, up to now heavily subsidized goods for the Soviet market. Their protected markets will disappear, and they will be forced to compete on the world market.

## *The Realignment of Agricultural Trade: Integration into the EC?*

The effect of the dissolution of CEMA on agricultural trade is also uncertain. The USSR has been the largest customer for Central European agricultural exports. Virtually all of Bulgaria's agricultural exports go to the USSR, as do over half of Hungary's. Poland and Yugoslavia are considerably less dependent on the Soviet market—only about 9 percent in 1987. But for some items, such as Polish potatoes and strawberries, the USSR is by far the largest buyer.

All Central European government officials are apprehensive about the future. Because of the enlarging trade surpluses, many of the Central European countries, particularly Poland and Hungary, have already cut back sharply on exports to the USSR. They would like to become even less dependent on the Soviet market. They are also becoming increasingly worried about the future ability of the Soviets to pay for imports, given the growing economic chaos in that country. The Central Europeans are eagerly trying to develop new markets as a result.

But new markets have not been easy to find. The second largest market for Central European agricultural products is the European Community (EC). Fully half of Poland's agricultural exports go to the EC. After the EC come the United States, the Middle Eastern countries, and Japan.

The Central Europeans are looking mainly at the EC as a potential source of new markets. During 1990, most of the Central European countries signed agreements with the EC eliminating discriminatory quotas and to include Central European products under its System of Generalized Preferences (SGP). Under the SGP, the duties on the included items are reduced substantially. In return, the Central European countries have promised to open their markets to EC products. However, the benefits these agreements provide to the Central Europeans are limited. Essentially, Central European exporters now face the same barriers as the United States or Japan. The Central Europeans are also worried that the 1992 unification of the EC will close their products out of the EC market. [6]

In response to these fears, the Central European countries are pursuing closer cooperation with the EC. Hungary, Poland, Czechoslovakia, and Yugoslavia have

[6] An example of the potential impact of 1992 is the potential closure of the EC market for Yugoslav baby beef. Currently, most of these beef exports go to Italy, under a preferential trade agreement between the two countries. After 1992, such bilateral agreements will no longer be valid. Moreover, under the proposed harmonization standards, the EC is to be completely free of foot and mouth disease (FMD) by 1992; this will entail a ban on imports from all countries which are not FMD-free. Of the Central European countries, only Poland is FMD-free. The result could be a complete loss of the EC market for Yugoslav baby beef.

all announced their intention to apply for membership in the EC. EC officials have stated that they will not consider such requests until after the 1992 program is in place, but their responses to Hungary and Czechoslovakia, in particular, have been encouraging. In the meantime, the Central European countries are all trying to negotiate various sorts of association agreements. "Association" has not yet been precisely defined, but could mean virtually anything short of full membership.

## Conclusions

The changing patterns of Central Europe's agricultural trade could have important consequences for U.S. interests. While the Soviet Union is likely to remain a major trading partner for Central Europe in the short term, the Soviet share of Central European exports is already showing a significant decline and a reorientation of trade toward the West is in progress. This reorientation could mean new markets for the United States, or it could result in greater difficulties for U.S. exporters in penetrating Central European markets. The outcome will depend on the future relationship between Central Europe and the EC and on a successful resolution of the current GATT negotiations.

Successful economic reform in Central Europe could mean the loss of traditional markets for U.S. grains in that region. According to one set of projections, Central Europe has the potential to become a significant grain exporter by the year 2000. There could be an increase in demand for imported protein feeds (*1*). However, as Central European incomes begin to rise, new markets could develop for a range of U.S. products. Besides protein feeds, potential exports to Central Europe during the 1990's include cotton, agricultural chemicals, plant and animal genetics, and food processing equipment. As the Central Europeans gain more exposure to the West, they can be expected to develop a taste for a greater variety of foods, and there could be a demand for high-value specialty foods: nuts, raisins, citrus fruit, and processed convenience foods.

Also, if the Central Europeans are able to expand their hard currency exports to the West, there will be more foreign exchange available with which to import U.S. products.

However, if the Central European countries join the EC or adopt agricultural policies similar to the EC's Common Agricultural Policy, the United States could be facing a truly formidable "Fortress Europe." It is for this reason that a successful outcome of the GATT negotiations is critical to the future of U.S. exports to Central Europe.

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# Agricultural Prospects Following German Unification

by
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**Abstract:** *The unification of East and West Germany has proceeded more quickly than anticipated. As a part of a united Germany, East Germany joined the Common Agricultural Policy of the European Community on October 3, 1990. East German agriculture is structurally very different from West German agriculture. Looking ahead, unification will have profound effects on the agricultural economies of both Germanys, and on the future of the CAP.*

**Keywords:** *Unification, Germany, EC, Common Agricultural Policy, socialist agriculture.*

The unification of East and West Germany has proceeded more quickly than anticipated. Unification has added significant agricultural resources to the former West Germany and the European Community (EC) (table 1). At the same time, the agricultural sectors of the two parts of Germany are vastly different from one another, and these differences will pose significant economic, social, and political problems, many of which have already surfaced. The most obvious concern the future of former East Germany's agricultural lands and farmers as the structures, programs, and policies of socialism are dismantled. Also, the unified German Government assumes an added fiscal burden. And because of Germany's importance in the EC and the world economy, many of these problems will have international repercussions for some time to come.

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## *The Unification Process and Its Consequences For East German Agriculture*

The first economic steps toward unification took place with monetary union between East and West Germany on July 1, 1990. Most East German prices were liberalized and farm goods began to be traded in Deutschemarks (DM) and at EC prices, changing the prices and price relationships which East German producers faced. These prices had promoted national self-sufficiency and particularly favored production of meat and dairy products. A transitional intervention buying system was also set up alongside the subsidization which East German farms had received. One month later, all EC quotas and import levies on imports from East Germany were abolished.

On October 3, 1990, East Germany ceased to exist as a political entity. On the same day, its five federal states joined West Germany. When unification occurred, Community law became applicable in the territory of the former East Germany. The process of adopting EC laws and policies, including EC customs legislation and the Common Agricultural Policy (CAP), has begun in the five East German states.

To ease the transition, the five East German states have received temporary exemptions from some EC laws. They have been granted derogations for EC feedstuff regulations until the end of 1991. Full adoption of EC veterinary and plant health laws is scheduled for the end of 1992, and air and water standards in 1996. Almost all the Single Market legislation entered into force with unification, but the European Commission will allow substantial German national subsidies for agriculture in the east.

The Commission decided to maintain existing Maximum Guaranteed Quantities (MGQ's), production ceilings beyond which automatic price cuts go into effect, for cereals and oilseeds for the 1990/91 marketing year, but East German production will not be included in the total. Nor will East German production be counted toward the MGQ's for sheep or tobacco. East German producers, however, will face the same price cuts or increases in

**Table 1—Comparative agricultural sectors, East and West Germany, 1989**

| Item | East Germany | West Germany |
|---|---|---|
| Agricultural GNP ($ billion) | 15.95 | 27.90 |
| Agricultural GNP per rural inhabitant ($) | 11,200 | 13,520 |
| Land (million hectares) | 6.2 | 11.8 |
| Labor (percent of work force) | 10.8 | 4.2 |

Sources: Agricultural GNP: (14); land: (6); labor (6).

coresponsibility levies, or taxes, that result from exceeding the MGQ's.

The former East Germany now has its own milk and sugar quotas. The milk quota has been set at 6.59 million tons, which represents 80 percent of current production and will require a significant reduction in dairy cow numbers (approximately 300,000 animals). The Commission wants to compensate East German dairies for this production cut with a one-off (one-time) payment to producers. For the first 3-percent reduction in output, the producer will receive a premium of 42 ECU/100 kg, and for the next 4.5 percent, the premium will be 21 ECU/100 kg.[1] In order to facilitate the rationalization of East German dairying, the quotas will be tradable within the five East German states through 1991. The sugar quota has been set at 847,000 tons, somewhat higher than current production levels.

For East German "less favored areas" (EC terminology for disadvantaged areas that are eligible to receive development funding), a maximum EC contribution of 280,000 ECU per holding has been established. The German Government is authorized to provide special national aids to farms in less favored areas through 1991. The set-aside program is expected to play an important role in removing marginal areas from agricultural production. At the end of October 1990, applications had been received to withdraw approximately 650,000 hectares (ha) (nearly 14 percent of East German land devoted to crops) from production. The Commission has adopted special measures to govern East German set-aside: holdings of 750 ha or more will have to set aside a minimum of 150 ha to qualify for the program. In West Germany, set-aside payments have averaged about 500 DM per ha.

## Structural Changes

Over the years of Communist rule, East German agriculture evolved a far different structure than that of West Germany (see Box).

East German producers are already struggling to adapt to changed demand conditions and CAP limits on grain, oilseed, and dairy production. Adopting the CAP will change traditional patterns of supply, use, and trade.

The restructuring of the East German agricultural sector will affect land and labor use in many ways. The job security and social welfare benefits farmers in the east enjoyed under the socialist system may be reduced or eliminated. As many as half of East German farmers, whose productivity does not equal that of West German farmers, could lose their jobs. Few have the experience and capital necessary to start their own farms. But before the large-scale agricultural production units in former East Germany can be restructured, the question of pending claims must be settled (see Box).

## Effect of Unification on the German Government

With unification, the German Government assumes the totality of a financial burden that was formerly divided between the two governments. This applies notably to the $21.2 billion external debt of the former East German Government. But other parts of the burden will consist of continuing expenditures, particularly for national programs of agricultural support. The German Government's agricultural spending in 1990 was about 10 billion DM in the west and about 7 billion DM in the east.

The contribution to CAP Guarantee Section outlays from the German treasury will be large: $2.8 billion was set aside for the second half of 1990, and $4.8 billion for 1991 to provide direct aids to facilitate the adjustment of agriculture in the east.

The German Government will have to protect West German farmers from market disruptions caused by unification, while trying to help East German farmers adjust. In the immediate aftermath of unification, East German consumers' rejection of locally produced food products resulted in cancellation of contracts with East German processors, which forced East German farms to sell their grains and livestock in the West. As East German productivity grows and as product quality improves, however, East German goods will compete for market share with West German products. Increased supplies on the market will put downward pressure on prices, and the presence of East German farm products on the market could affect West German consumer demand.

While East German yields are now lower than West German (table 3), this gap will likely be gradually closed. East German farms will not be handicapped, at least for the near term, by the inefficiencies of small size of operation, as are West German farms. Moreover, they stand to benefit not only from West German and EC structural investment, but also from improved input supply and infrastructure.

The very large "industrial" farms of East Germany, however, are incompatible with West Germany's agricultural policy goal of maintaining a viable agriculture based on small family farms (table 4). West Germany recently instituted a number of national policies designed to protect and promote traditional small farms while discouraging surplus production. West Germany encouraged participation in the EC's land set-aside scheme, which was started in 1988, by providing a very high payment. The goals of the Act on the Promotion of Peasant Farming (1988) are

[1] ECU = European Currency Unit. In January 1991, the rate of exchange stood at 1 ECU = $1.37.

## The Evolution of a Different Structure

The evolution of the East German agricultural sector came about in five distinct phases.

In the first phase, which ran from the end of World War II in 1945 to 1949, the Soviet occupation authorities expropriated all farms larger than 100 hectares (except for church-held property) and farms owned by members of the Nazi party. Total land affected was 3.3 million hectares, or about 53 percent of agricultural land in the Soviet zone of occupation. Two-thirds of this land was in turn redistributed to smaller or new farmers. The Soviets also expropriated agricultural machinery, which was collected into lending stations. This phase is known in German as the Bodenreform. In addition, delivery quotas were established for all private farms.

In the second phase, which ran from the establishment of the East German state in 1949 to 1952, a campaign of systematic discrimination against privately held farms of more than 50 hectares was undertaken (higher delivery quotas enforced by threat of imprisonment, higher machinery rental fees, etc.), and resulted in the giving up of some 700,000 hectares of agricultural land.

The third phase, from 1952 to 1960, was one of collectivization. By 1957, 6,691 cooperatives, or landwirtschaftliche Produktionsgenossenschaften (LPG's), had been established. These LPG's, however, controlled only about 25 percent of East Germany's agricultural land, and their performance was considered unsatisfactory. After 1957, official pressure on farmers to join LPG's was stepped up in the form of discriminatory measures. Their failure led to the forcible collectivization of 40 percent of the agricultural land in the first 3 months of 1960.

Table 2—Structure of the agricultural sector, East Germany, 1988

| Item | Number | Average size | Percent of ag. land |
|---|---|---|---|
| | *Number* | *Hectares* | *Percent* |
| LPG: | | | |
| Crop | 1,159 | 4,538 | 85.1 |
| Livestock | 2,696 | 31 | 1.4 |
| VEG: | | | |
| Crop | 79 | 5,013 | 6.4 |
| Livestock | 311 | 170 | .8 |
| Church and privately held farms | More than 3,000 | 113 | 5.4 |

LPG = Landwirtschaftliche Produktionsgenossenschaften. VEG = Volkseigene Gueter.
Source: (7).

A period of consolidation and concentration followed from 1960 to 1968. The regime steered developments in the desired direction by means of tax and subsidy policies. Integration of production units was vertical as well as horizontal.

The fifth and final phase of change ran from 1968 to 1983, in which the agricultural sector was essentially industrialized. The goals were exploitation of economies of scale, more rapid application of technological advances, and a bridging of the gap between rural and urban working and living conditions. At the end of this phase, East German agriculture was dominated by the LPG's, whose crop and livestock production activities were strictly separated, as were service input industries, and by another form of cooperative, the Volkseigene Gueter (VEG), which specialized in breeding stock and seed production (table 2). —*Ann Hillberg Seitzinger*

## The Settlement of Property Rights

While East Germany came under the operation of West German property rights law with unification, a decision was made initially to allow property owners dispossessed between 1949 and the present to file applications for the return of their property. The deadline for filing such claims was set at October 13, 1990. Since this initial decision was made, claims have also been allowed on property seized by Hitler between 1933 and 1945. Applications covering this earlier period must be filed by March 31, 1991. A decision has not been reached on claims for property confiscated between 1945 to 1949.

Regulations governing the transfer of property back to its previous owners are still being drafted. However, the drafts so far indicate emphasis is being placed on payment of financial compensation rather than restitution of land.

The process of settling property rights claims has vastly complicated the problem of restructuring East German agriculture. —*Ann Hillberg Seitzinger*

**Table 3—Comparative average crop and livestock yields, 1983-88**

| Item | East Germany | West Germany |
|---|---|---|
| Grains (kg/ha) | 4,400 | 5,230 |
| Potatoes (kg/ha) | 23,360 | 33,360 |
| Sugar beets (kg/ha) | 30,230 | 49,040 |
| Winter oilseeds (kg/ha) | 2,560 | 2,940 |
| Milk (kg/cow) | 3,821 | 4,713 |

Sources: (3 and 5).

**Table 4—Distribution of agricultural land, West Germany, 1987**

| Farm size in hectares | Percent of agricultural land |
|---|---|
| UAA 1/ under 5 | 4.35 |
| UAA between 5 and 15 | 15.48 |
| UAA 15 - 30 | 27.15 |
| UAA 30 - 50 | 24.72 |
| UAA 50 - 100 | 20.43 |
| UAA more than 100 | 7.88 |

1/ UAA = Utilized agricultural area.
Source: (8).

**Table 5—Comparative input use, 1988**

| Item | East Germany | West Germany |
|---|---|---|
| | *Kg/ha* | |
| Fertilizer: | | |
| Nitrogen | 141.3 | 121.0 |
| Phosphorus | 56.4 | 56.8 |
| Potassium | 94.4 | 72.1 |
| Total | 292.1 | 249.9 |
| Pesticides | 4.9 | 2.3 |

Source: (5).

to improve the competitive position of peasant farmers by orienting income supplements toward them and by excluding farms with herd sizes beyond a set limit from receiving certain national funds.

Beyond its large scale, farming in East Germany, like farming in most of the East Bloc, was not environmentally friendly. This fact raises strong feelings in West Germany, where the general public has been made very aware in recent years of the environmental damage that can result in certain circumstances from intensive use of fertilizers and herbicides. Measures to protect ground water are already in force (within the framework of an EC law, but administered by the West German states), and a Nature Protection Law is under debate. The West Germans' belief is that large "industrial" farms are a greater threat to the environment than small farms. This perception stems from experiences of such farms in East Germany in which chemicals were applied at the wrong times or at inappropriate rates due to irregularities of supply, rather than from significant differences in application rates of chemicals between East and West Germany (table 5). Moreover, the manure disposal problem on East German specialized livestock farms revealed very real environmental damage potential.

Thus, in terms of both farm size and environmental impacts, the German Government faces additional challenges from integrating East German agriculture.

## *Effect of Unification on the European Community*

East German agriculture will require significant investment in order to bring it up to the level of production and efficiency found in West Germany. The cost of rural restructuring will be borne by the German Government and by the EC budget. The Commission has estimated that for the period 1991 to 1993, 3 billion ECU, or over $4 billion (not including the costs of the set-aside), will be required of the EC Social Fund, Regional Development Fund, and Guidance Section of the CAP budget.

Some EC countries have expressed concern that West Germany's attention may be distracted from the process of European integration. The EC hopes to establish a European Monetary Union, and, as the member state with the strongest currency, Germany will have to take the lead. Some foresee that West German investment money will begin to flow to the east rather than to other EC countries. This latter fear is especially acute among the EC's poorer countries, namely Spain, Ireland, Portugal, and Greece.

## *Impact on the Common Agricultural Policy*

As was the case in previous enlargements of the Community, the agricultural sector will pose special problems as the former East Germany adopts the CAP. The CAP is an essential part of the Community, and it relies upon a delicate balance of the member states' interests. The fundamental changes wrought by unification may alter Germany's role in the CAP.

While unification did not necessitate any changes in the programs or policies of the CAP, some adjustments will have to be made to accommodate East German agriculture. For example, the MGQ for grains and oilseeds will eventually have to be adjusted to include East German production. The operation of the stabilizers, and of the set-aside program, is to be reviewed by the Commission over the next 2 years. EC intervention ceilings for beef, butter, and skim milk powder have been increased to 235,000 tons (from 220,000 tons) for beef and 275,000 tons (from 250,000 tons) and 106,000 tons (from 100,000 tons) for butter and skim milk powder, respectively.

In terms of budget outlays also, the impact of German unification will be felt. The EC estimates that the former East Germany will add close to a billion ECU ($1.3 billion) a year to CAP Guarantee Section outlays. It is anticipated that part of this projected increased expense will be offset by payments from the former East Germany. The EC budget for 1991 has increased the ceiling for structural spending by 750 million ECU in 1991 and 1 billion ECU in 1992 and reserved these additional funds for structural programs in the five East German states. A further 65 million ECU for other policies in the east was also approved.

With the East German states in the CAP, total EC agricultural production will expand, and the budget will have to expand correspondingly in order to pay for increased intervention purchases, export refunds, and income payments. East Germany was at, or very near, self-sufficiency in milk, meat, and rapeseed. For wheat and barley, East Germany was 80 and 70 percent self-sufficient. These production levels were attained under central planning. Under the CAP, output of most commodities can be expected to increase as inputs and services to agriculture are improved.

The West German Government tried to limit the disruptive effects of East German supplies on its markets, and on its EC partners' markets, by exporting surplus quantities of East German meat and livestock, mainly to the USSR. The EC is now responsible for financing these subsidized exports, which will add to its budget outlays for agriculture and will risk increased tensions in international agricultural trade. The EC is engaged in the agriculture negotiations under the General Agreement on Tariffs and Trade (GATT), and is under pressure from other negotiating parties to reduce its export subsidies.

## Conclusion

Unification will have many significant impacts on Germany and the rest of the world. Unification will require adjustments in the vastly different social structures and economies of its western and eastern states. The other members of the EC will have to adjust to the addition of over 16 million East Germans and to the changed priorities of the German Government. Outside Germany, unification will have impacts on international security policy, international trade, and monetary policy.

In agricultural markets, unification will put greater pressure on West German farmers as East German farmers become competitors in the German and EC markets. The pressure on prices will likely increase calls by West German grain farmers to scrap the stabilizer system, limit imports of competing feedstuffs, and institute national or regional production quotas. For their part, East German farmers are already suffering as the sector begins what looks like a long and painful adjustment to market orientation.

German unification adds a new element to the forces for change already acting upon agriculture in the EC. Increased supplies of many major commodities from the former East Germany have already begun to put downward pressure on EC prices. The added budgetary burden of intervention purchases, export subsidies, and structural payments could provide an added incentive to speed the pace of agricultural policy reform. Also, attempts to shift increased supplies of major commodities already in surplus onto the world market are bound to increase tensions between the EC and its competitors in world agricultural trade.

As the Uruguay Round of GATT negotiations, the Europe 1992 project, and the ongoing process of CAP reform force continued adjustment on EC farmers, German unification has created new pressures. These pressures are manifesting themselves on the German Governmnent, on agriculture under the CAP, and on West German farmers, whose enterprises rely heavily on high CAP prices and generous national payments to survive.

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# Agricultural Privatization and Land Reform in Central Europe

by
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**Abstract:** *The new governments of post-communist Central Europe have enacted a significant body of land-holding legislation. Although hard to document, the share of land under private cultivation has certainly increased. The future of state and collective farms falls within the framework of privatization. Claims of ownership on these lands constitute a major problem for governments, as does the question of the optimal farm size to achieve efficient production.*

**Keywords:** *Central Europe, privatization, land holding, Bulgaria, Czechoslovakia, Hungary, Poland, Romania, Yugoslavia.*

The ownership and structure of agricultural land is the subject of intense debate throughout Central Europe. All the new governments have recognized the importance of the potential contribution of the private sector, both in agriculture and in other sectors, and all have passed legislation removing many of the restrictions on private activity that were imposed by the Communist regimes. More land has been turned over for private cultivation; eligibility for such plots has been extended to include nonagricultural workers; many of the restrictions on marketing and pricing of private sector output have been removed. Throughout the region, the state and collective farms are slated for privatization.

However, ownership issues remain unresolved. It is true that fairly significant short-term gains in output can be realized just by improving conditions for private farmers. But without clear title to the land, farmers will be reluctant to undertake major investments. Socialized farms as well are facing an uncertain future and are likely to put investment projects on hold until their status is clarified. Thus, land reform, in the sense of legalizing the ownership of land as well as redistribution of land, is a vital necessity if agricultural productivity is to be raised.

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Aware of the urgency of the ownership question, all the new Central European governments have passed legislation addressing this issue. In general, the future of the state and collective farms falls within the framework of privatization. However, the reform of land ownership is lagging behind the privatization process in other sectors. Complicating the reform of land ownership is the issue of reprivatization, or the return of property confiscated by the state during the period of communist rule. Governments tend to favor compensation schemes over reprivatization, citing the complexity of verifying claims of former ownership and fundamental changes in the physical qualities of the land since collectivization (meaning either capital improvements or degradation through neglect and misuse of chemicals). However, organizations of former landowners continue to push for the return of confiscated lands.

## Agricultural Sector Structures Compared

At the beginning of 1990, two types of land-holding structure could be found in Central Europe. In Yugoslavia and Poland, the private sector owned most of the agricultural land—81 and 77 percent, respectively (table 1). Elsewhere, outright ownership of agricultural land by individuals was rare: less than 16 percent in Bulgaria, and no more than 1 percent in Czechoslovakia. In Bulgaria, Czechoslovakia, Hungary, and Romania, small plots, usually a half hectare (ha) in size, were allotted to collective farm members, and in some cases nonagricultural workers as well, for individual use. In some countries, a few privately owned farms managed to survive, mainly located in mountainous regions unsuited to large-scale socialized agriculture.

**Table 1—Structure of agricultural land in Central Europe, 1989**

| | State sector— | | | Private sector 1/ | All sectors |
|---|---|---|---|---|---|
| | State farms | Cooperative farms | Other state | | |
| | | | *Percent* | | |
| Bulgaria | | 2/ 83 | 1 | 16 | 100 |
| Czechoslovakia | 30 | 68 | 1 | 1 | 100 |
| Hungary | 14 | 69 | — | 17 | 100 |
| Poland | 19 | 4 | — | 77 | 100 |
| Romania | 18 | 73 | — | 9 | 100 |
| Yugoslavia 3/ | 18 | 1 | — | 81 | 100 |

— = Either negligible or nonexistent. 1/ Includes both private plots granted by cooperatives and privately owned land. 2/ Bulgaria does not distinguish between state and cooperative farms. All socialized farms are known as agro-industrial complexes. 3/ Socialized farms in Yugoslavia are not technically "state farms" because they are socially-owned rather than state-owned. Their exact name is agro-industrial kombinats.
Sources: Statistical yearbooks of the respective countries.

**Table 2—Average farm size by sector**

| Country | State | Cooperative | Private |
|---|---|---|---|
| | | *Hectares* | |
| Bulgaria | 9,692 | — | na |
| Czechoslovakia | na | na | na |
| Hungary | 128 | 275 | na |
| Poland | 2,665 | 297 | 5.0 |
| Romania | na | na | na |
| Yugoslavia | 694 | 94 | 2.5 |

— = Negligible or nonexistent. na = Not available.
Source: Statistical yearbooks of the respective countries.

In theory, workers at collective farms were members of cooperatives and owned shares of their cooperative. In Hungary, some 2 million ha of land used by cooperative farms are still registered in the names of the former owners; however, in most cases the land was taken from former owners and now belongs to the state. These owners are now coming forward to claim their former holdings, but the validity of their claims is unclear. Many of these owners were compensated for the land that was taken from them, but claim that the compensation was too low and the transactions, made under duress, were invalid.

The contribution of the private sector to aggregate production was significant. Individual producers in Hungary, Romania, and Bulgaria typically produced about 40 percent of the country's meat and up to 60 percent of the fruit and vegetables. The contribution of the private sector to gross agricultural output in Yugoslavia and Poland was 66 percent and 80 percent, respectively. Furthermore, during the mid-1980's when governments began to treat private producers more favorably, significant increases in the private sector share of output were observed in most countries.

## *Measures Affecting Private Farmers*

Attempts to improve conditions for private farmers began under the communist regimes. Procurement prices were raised to improve the profitability of farming; efforts were made to improve the supply of inputs; the socialized farms were given incentives to provide better services to private farmers; and in many cases farmers were granted some increase in their freedom to make their own decisions regarding production and marketing.

Among the first acts of the new governments of Central Europe was to expand on these previous measures. Plots of land, usually a half ha in size were made available to virtually anyone interested in farming them—previously, in many of these countries, the rights to such a plot were restricted to collective farm members. Private farmers were given more freedom in marketing their output and in many countries legislation was passed giving private enterprises, including farms, the same rights as socialized enterprises. (See Box for measures undertaken by individual countries.)

### Czechoslovakia and Hungary

There do not appear to have been many changes in the status of private farmers in these two countries. Hungary, like Bulgaria, allows private farms to register as firms, which gives them the same rights as socialized farms. Czechoslovakia has made more plots available and has extended eligibility for plots to anyone interested in farming one. The main focus of debate in both countries, however, is the redistribution of the land currently belonging to the state and cooperative farms.

### Romania

Immediately on taking power, the National Salvation Front (NSF) Government announced plans to hand back 2 million ha of cooperative lands to the peasants. These plans were put into effect through a series of decrees (see Box).

### Bulgaria

Bulgarian officials maintain that as a result of legislation passed since 1989 (see Box), there has been a significant increase in the number of private farms and in the contribution of the private sector to gross agricultural output. According to one Bulgarian official, quoted by the U.S. Agricultural attache in Belgrade, about 50 percent of the grain and oilseed production will come from private farms this year. However, there are no official data available to confirm this statement.

### Poland

During most of the 1980's, Polish policy toward private farmers was aimed at ensuring some semblance of income parity between the rural and urban populations. To this end, the Communist Government of Poland implemented a number of substantial increases in procurement prices. But private farmers still found their options limited, because they were squeezed between monopoly input suppliers and state-owned monopsonistic purchasing organizations. The final act of the outgoing Communist Government was to implement a system of guaranteed minimum prices in the spring of 1989. Prior to that, in January 1989, the Polish Government issued legislation abolishing the state purchasing monopolies; in theory, any individual or enterprise could now purchase from a farmer.

Policy changed abruptly with the new government. During the fall of 1989, the government removed all controls on producer prices and eliminated virtually all subsidies. The Mazowiecki Government viewed the private farmers as high cost and inefficient and was determined that the market should force efficiency into the sector. Toward this end, the government removed all restrictions on the size of land holding, declared that farmers were free to buy and sell land, and provided low-interest credit for the purchase of land. The hope was that the less efficient

farmers would be forced to sell out and that this process would eventually lead to the consolidation of Poland's tiny, fragmented farms into more viable units.

But Poland's farmers are extremely unhappy with the present situation. They are facing sharply lower prices, escalating costs, and serious difficulties marketing their output (state procurement organizations, citing sharply reduced consumer demand, are refusing to buy much of what is offered them). The Mazowiecki Government responded to farmer protests with a partial reinstatement of input subsidies, but it steadfastly refused to yield to demands for guaranteed purchases and minimum prices. We have yet to see what sort of farm policy the Walesa Government will pursue.

**Yugoslavia**

Yugoslav farmers are caught in the same sort of price/cost squeeze as their Polish counterparts. They face a monopsonistic purchasing system on the one hand, and monopolistic input suppliers on the other hand. Thus, their costs are very high, while the prices they receive for their output have not kept pace with inflation. While officials do talk of the need to break up these monopolies, government policy seems to be focused mainly on encouraging the consolidation of farms into larger, more efficient units (see Box).

## *Privatization Legislation*

In virtually all of Central Europe, the future of the state-owned farms falls under the broader scope of privatization laws that have been recently passed. Some of the governments of Central Europe have enacted privatization laws; the rest are debating such legislation. Two categories of privatization laws have been passed. One can be called "privatization from below": these laws remove many of the previous restrictions on setting up small-scale private enterprises. The other can be called "privatization from above" and deals with the privatization of existing state-owned firms. In general, these laws call for the conversion of state enterprises into "joint stock companies," to be followed by the sale of shares to the public. Usually, provisions are made for the sale of a given percentage of shares at concessionary prices to the workers. In most cases, purchase of shares by foreigners is permitted, with some restrictions. In some of the countries, approval of the workers' councils must be obtained before an enterprise can be privatized.

**Hungary**

In September 1990, the Hungarian Parliament approved an economy-wide privatization program for state-owned property, which accounts for 90 percent of the Hungarian economy, or between $23-$28 billion (1.5-2.5 trillion forints), by Hungarian accounts (see Box). The goal of the program is to regulate the privatization process and avoid spontaneous privatization, whereby the management of state-owned firms sell stock in their companies at very low prices and eventually become the new owners of the firm. The only concession to former owners will be the rights to make compensation claims and pre-empt property sales, though the details of such rights are to be delineated in a separate law. (In early September, a government draft of this compensation law stipulated that only partial indemnification will be made and then only in the form of securities that may be used to purchase new property.)

**Czechoslovakia**

The Czechoslovak Federal Assembly passed a Restitution Law on October 2, 1990. Effective November 1, 1990, it allows people to reclaim small businesses, shops, and other property confiscated by the state between 1955 and 1959. Former owners and their heirs have a 6-month deadline to file their claims. However, the Government has focused most of its attention on the passage of two privatization laws that are more far-reaching in their scope. These laws are the Small Privatization and Large Privatization Laws. The former provides for the privatization of small businesses; the latter calls for the transfer to private ownership of large State enterprises (see Box).

**Romania**

In February 1990, the NSF issued a decree allowing any Romanian citizen residing in Romania to start a company of 20 or more employees, with the goods and services produced by the new firms to be sold on the free market at freely determined prices. In March, the government passed a law allowing state economic entities to reorganize themselves as autonomous companies or commercial societies and giving them complete freedom regarding their production, supply and sales programs, wages and employment policies, investment and foreign trade decisions, and prices (see Box).

The next stage in the privatization process will address the ownership issue. Under the government's proposal, at least 50 percent of the Romanian capital stock would be privatized in 3 years. In late July, the Parliament agreed on a plan to give 20 percent of the ownership in state industries to Romanian citizens in the form of generic vouchers. At some point in the future, people will be able to use these vouchers to purchase shares in the specific enterprises. The government estimates that each adult Romanian will receive the equivalent of about $2,000 in vouchers (although it is not clear at this writing how these will be valued). However, the privatization of state enterprises, including the offering of their assets for purchase by private individuals, is not scheduled to begin until July 1991.

**Poland**

Poland's Privatization Law, passed in July 1990, called for the establishment of a Ministry of Ownership Transformation to oversee the conversion of state property to private ownership. Enterprises selected by this new ministry will be converted to joint stock companies, and their shares will then be sold. Other enterprises will be auctioned off or sold directly to individual buyers. Coupons will be distributed to the population, which can be used to buy shares. Workers will be able to buy up to 20 percent of the shares of their enterprise at half price. Foreigners will be allowed to buy up to 10 percent of enterprises that are put up for sale.

**Yugoslavia**

The Yugoslav privatization law provides for the sale of enterprise shares, with the consent of the workers. Workers will be able to buy shares at a 60-percent discount. Remaining shares will be available for sale to the public, including foreigners. A portion of the proceeds from the sale of such enterprises will be distributed to the workers. The remainder will be channeled into the republic's development funds.

## *The Issue of Land Tenure*

In general, the privatization or reprivatization of socialized land is intended to take place as part of the general privatization process. However, the question of land redistribution is proving to be complicated. Most governments are still struggling with an issue that involves equity, efficiency, and legal considerations.

In all the countries, peasant parties have arisen that are demanding the return of all land to pre-1948 owners. On this question, governments have tended to favor compensation schemes rather than actual return of the land. For one thing, these governments must consider the demands put forth by the current state and collective farm workers. Many of them feel threatened by the privatization process (and the loss of a secure job) and are lobbying to preserve the current farm structure. They are not entirely satisfied with provisions granting them priority in purchasing land. Many of them do not want to become private farmers: they tend to be highly specialized—they only work as tractor drivers for example—and they do not want to take the risks inherent in private farming. In addition, over the 40 years of state ownership, much of the land in question has changed fundamentally. Capital improvements have been made, which would be difficult to apportion among former owners.

Also, there is a reluctance to give up the economies of scale realized by the large socialized farms. All the new governments have made statements about the desirablility of maintaining the economies of scale of the large state-owned farms, particularly for grain and industrial crop production. Yugoslavia, Poland, and Bulgaria seem most concerned about excessive parcellization. The first two see their farm structure as the main obstacle to productivity growth. The prewar structure of Bulgarian farms was very much like that in Yugoslavia, and even the opposition Bulgarian parties have expressed the desire not to return to that structure.

But lurking behind these pronouncements is the notion that there exists some "optimal farm size." Officials speak of 50-ha farms. However, under current conditions, 10-ha farms are doing well in both Yugoslavia and Poland. Rural Solidarity argues that under better conditions, even a 2-ha farm could be viable, that it has been government policies, not inherent inefficiency, that prevents these small farms from being profitable.

Finally, the laws that have been passed do not unambiguously resolve the question of land ownership.

**Hungary**

In Hungary, where individual farmers continue to hold title to much of the agricultural land used by cooperatives, the land tenure issue has proved to be a politically and constitutionally volatile one. The current government has decided that cooperatives will now have to pay rent to the "former" owners for this land. What remains unclear is the status of the remaining cooperative lands. Past compensation paid for these lands is widely deemed insufficient, and the government has promised to settle the issue of whether or not these lands should revert to their former owners. No decision has yet been made.

During the election campaign in the spring of 1990, the Hungarian Democratic Forum (MDF) announced that it would restore land ownership to peasants. Specifically, the rural population would be given the option of reclaiming the land they owned in 1947 or accepting material compensation instead. In the closing weeks of the campaign, the MDF moderated its position, saying that long-term reparations might be necessary for those who once owned land but no longer live in rural areas. People who never owned land but have been working in a collective farm "would have to be given a preference to buy." The Independent Smallholders Party (FKgP), however, continued to call for a return to the 1947 farmland ownership status.

After the elections, the MDF and the FKgP emerged as the two strongest parties in the three-party government coalition. These two parties reached a compromise on the land question which separates the right of ownership from the right of use of the land. This proposal would allow most of the cooperative farms to continue operations by paying rent to the former owners. What remained unclear was the status of the lands for which

cooperatives paid compensation in the 1970's. Before this issue could be cleared up, cooperatives began to sell agricultural land. In response, the FKgP called for the suspension of land sales, stepped up its efforts to register former owners, and proposed that a draft bill on land property be submitted to the National Assembly as soon as possible. By May, former owners were flooding land offices to receive verification of their property ownership status of 1947.

However, before the government could submit its draft land law to the Parliament, Hungary's Constitutional Court ruled that it would be against the provisions of the Constitution forbidding unfair discrimination to return one type of confiscated property to former owners if other types of confiscated property were not returned or compensated for in the same way. It also ruled that it was unconstitutional to take away land from agricultural cooperatives without full and immediate compensation. Though the government then stated that it will submit a landed property law that is in harmony with the resolution of the Constitutional Court, it reiterated its commitment to the compensation of previous owners.

In mid-November, the MDF, the FKgP, and three smaller parties issued a joint statement declaring that compensation "for the past 40 years of injustices" is necessary and should be accomplished through the issuance of compensation bonds. These bonds will be used as a means of payment for the privatization of state property. In addition, they stated that, 1) demand for land by those entitled to compensation would be given priority, should land available be insufficient, and 2) land thus distributed would not exceed 50 percent of the cooperative farm land. It seems that the 2 million ha controlled by cooperatives but still registered with private owners will be the first pool of land to be distributed to those now petitioning for compensation.

### Czechoslovakia

The Czechoslovak Federal Assembly has passed two laws specifically targeted to ownership rights to agricultural land: the Land Use Law and the Agricultural Cooperatives Law (see Box). Both laws seek to protect the rights of existing enterprises to continue using the land they occupy while at the same time providing for the settlement of claims by former owners. However, the two laws raise the spectre of conflicting ownership claims, and the government has shown reluctance to resolve the reprivatization issue once and for all.

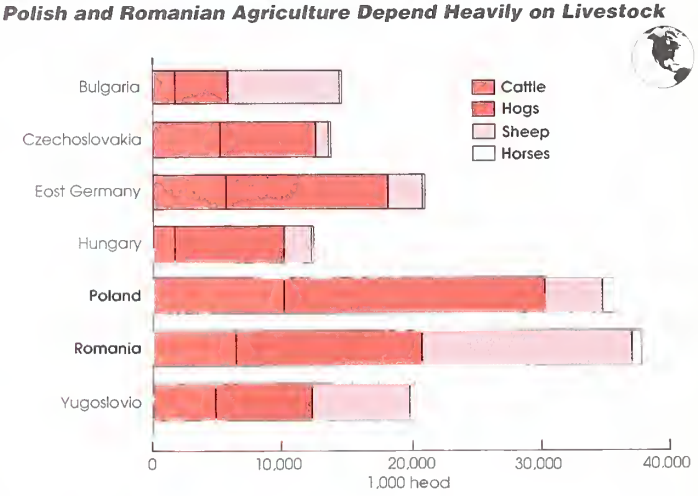
Since the passage of these two laws, the Czechoslovak Ministry of Agriculture and Food has stated that it is preparing additional bills, among which is an entirely new one on land. The Ministry has also announced that the prices for sales of state land will be between 5,000 and 120,000 koruny ($250-$6,000) per ha of arable land. Pastures will be cheaper by roughly one-quarter, while orchards, vineyards, and hop-gardens will be up to 200 percent more expensive. The Ministry for Control of National Property and Its Privatization is examining the issues of what types of property should be restored to the original owners and to what extent.

### Romania

Despite statements by the NSF that it supports the rebuilding of peasant farmsteads and measures granting peasants ownership of their houses and surrounding yards, the NSF has declared that it is against returning agricultural land to previous owners. Romanian Minister of Agriculture Ioan Tipa stated in July that, "By reassessing the role and importance of the three forms of ownership (individual, cooperative, and state) the Parliament will endorse soon the bill of Land Stock..." As of November, this bill had not been passed by the Parliament. Nevertheless, it is clear that the NSF is in favor of retaining all three agricultural producer types.

The National Peasant Party (NPP) is pushing the most forcefully for land distribution to the peasantry, including former owners. One of its stated aims is to make it possible for anyone who wants land to be able to obtain land, and to ensure that the remaining producer cooperatives function as true cooperatives. The party's president Corneliu Copusu stated in mid-November that, "First, lands should have been given back to their former owners and the victims of communism should have received damages." Though the NPP has clearly raised the question of giving land to the peasants so that they can become landowners, Copusu has emphasized in the past (February

***Polish and Romanian Agriculture Depend Heavily on Livestock***




Source: Statistical Annex

1990) that "Restoring the peasants' rights can be done only gradually, because any hasty and insufficiently studied measure could cause an essential disturbance in our agricultural production."

Some peasants are demanding that the cooperatives be dissolved and the old forms of land management restored. Though some peasants are content with 0.5 ha of land, others want more land, and still others want back the land that was taken from them during collectivization (and in some cases, *exactly* the same land). In some localities, distribution of land as set down by decree 42/1990 is being delayed as people wait for "instructions from above." In others, there have been frequent cases of fraud and abuse in the allotment of agricultural land, seed, fodder, and livestock.

However, in early October it seemed that the NSF was more intent on praising progress to date than pointing up its shortcomings in the area of land reform. The Minister of Industry and Trade stated that individual farmsteads that now control over 2 million ha of arable land (or 19 percent of the total farmland) will contribute produce worth more than 450 million lei ($15 million) to be sold directly on the free market.

**Bulgaria**

In 1990, the Bulgarian Parliament proposed a draft land law, which at least partially would resolve ownership issues (see Box). It is similar in many respects to the land laws passed in Czechoslovakia and Hungary, but stops short of endorsing wholesale privatization, stressing the equality of all types of ownership: "private, state, public, cooperative, and mixed" (5).

At this writing, this land law has not yet been passed, and its fate is unclear. Prime Minister Lukanov has resigned, and a new government is just being formed. The new Prime Minister, Dumitur Popov, has no party affiliation, and most of the ministers that have been named are noncommunist. Thus, it is possible that a more comprehensive land law will be passed soon. The main opposition parties seem to agree that it would not be desirable to return to the prewar farm structure of 980,000 5-ha farms.

**Yugoslavia and Poland**

The issue of reprivatization of the state and collective farms is not receiving as much attention in these two countries as it is elsewhere in Central Europe. It can probably safely be said that in both countries there are far more pressing issues to be dealt with. In both countries, more attention is being given to improving the efficiency of the private sector. The important issues in these countries are the consolidation of farms, the establishment of a land market, and alternative employment for displaced farmers.

In Poland, the privatization legislation aims to treat state farms like any other state enterprise (so far, however, none of the enterprises targeted for privatization include either agricultural or food processing concerns.) Shares will be offered for sale just as for other enterprises. There has been no discussion in the press of returning the land to former owners. An official of the Ministry of Agriculture, when questioned about this, stated emphatically that there are no plans to entertain claims from former owners. It has been suggested that fear of excessive foreign ownership has muted this debate (since many of the former landowners are Germans).

The only piece of legislation passed by Yugoslavia that specifically addresses the question of land ownership is the 1990 Law on Cooperatives (see Box). And this law is rather limited in its scope.

Yugoslavia's privatization law applies to socialized farms, as well as to other enterprises. The Federal Government so far has no specific plans for the privatization of the socialized farms. Many of these farms are in serious financial difficulties and could be forced into bankruptcy. In such a case, some of the assets could be sold to individuals. However, there are no provisions in the law for returning the land belonging to these farms to the original owners. Some of the newly formed peasant parties are calling for the return of all confiscated land. The Serbian Government, however, which is still in communist hands, opposes such a move, citing all manner of logistical obstacles. It is not clear what the positions of the other republic governments are.

The Serbian Government gives three basic arguments against the restoration of land to former owners (4). One is that original ownership patterns had been hopelessly obscured by multiple redistributions of land during the 1950's. The second is that such a redistribution of socialized land would destroy the economies of scale achieved by the large kombinats. The third is that because of significant capital improvements that had been made on the socialized farms and the large number of people employed on them, huge losses would be incurred with the redistribution of the land.

## Conclusion

Against the uncertain future of the structure of the agricultural sectors of the countries of Central Europe, the privatization process which has just begun is likely to encounter many difficulties. Some of these have to do with valuing assets, a lack of capital available for the purchase of shares, and a lack of managerial expertise. The various coupon distribution schemes designed to compensate for the lack of capital, for instance, could prove to be a logistical nightmare. Moreover, the privatization laws that have been passed leave open all sorts of possibilities for conflicting ownership claims.

In general, small-scale privatization, or privatization from below, has been easier for the new governments than the privatization of large state-owned enterprises. Throughout the region there has been a mushrooming of small-scale private enterprises and significant (although hard to document) increases in the share of land under private cultivation. Bulgaria and Romania have perhaps seen the greatest increases in private farming.

But private farmers find their advancement blocked by the lingering institutional structures of the former centrally planned systems. An outdated tax system tends to penalize private economic activity. The small, fragmented structure of most private farms hinders productivity gains, and the absence of capital markets, along with uncertainty about the future profitability of agriculture, is slowing the consolidation of farms. Private farmers must still buy their inputs from state-owned monopolies, which offer a poor selection at very high prices. The farmers' response has been to cut back on inputs and rely instead on traditional, low-tech farming practices.

Even though legal restrictions on marketing farm produce have in many instances been removed, farmers still find their options limited. Most purchasing and distribution is still carried out by state-owned monopolies. Private marketing channels have been slow to develop and farmers' only alternative is to sell their produce directly in the open markets or on the city streets. This situation does not bode well for raising the productivity of the sector.

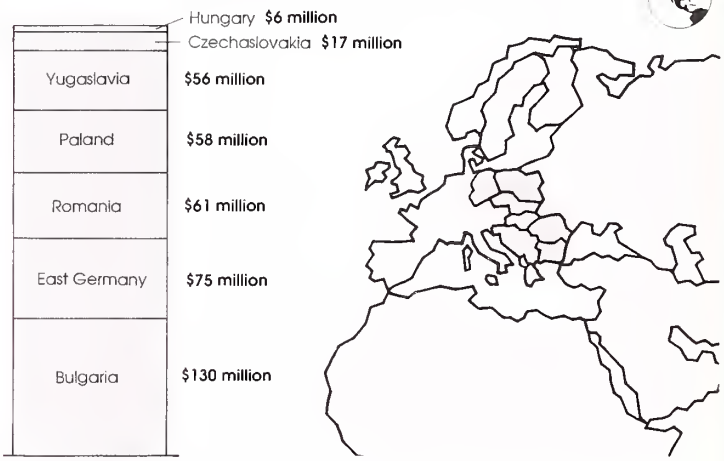
Small-scale entrepreneurs will thrive only when large-scale privatization is successful, that is when input suppliers are demonopolized and competition is introduced into the marketing and distribution sectors. This large-scale privatization will be a very slow process. In Poland, the newly formed Ministry of Ownership Transformation has selected just seven enterprises for immediate privatization—these were the firms that were deemed most economically viable. None of them is a food processing firm. The process is equally slow in Hungary, and none of the other countries has really begun the process.

The land tenure issue is particularly thorny. First, there are conflicts between the demands of the former landowners and the current workers on the state and collective farms. Second, the laws that have been passed do not unambiguously resolve the question of ownership. The Bulgarian law, for example, states that former owners may receive a plot of land as compensation, but it does not specify whether ownership rights will accompany the land. The Czechoslovakian laws also fail to clarify the issue of ownership. The definition of cooperative ownership is particularly vague: Section 5 of the Agricultural Cooperatives Law states that, "The property of the Cooperative is to be interpreted as those objects to which the Cooperative has ownership rights and those to which the Cooperative acquired property rights." The second clause in Section 5 states that the property of the Cooperative is created by combining the Members' resources. This law, together with the Land Use Law, could well lead to conflicting claims between individuals and cooperatives and as yet there is no mechanism for settling such conflicts.

Then there is the spectre of the parcellization of land into farms too small to be economically viable. Under current conditions it is impossible to determine what the optimal farm size is. Attempts by western economists to compare the technical efficiency of the private and socialized sectors in Yugoslavia and Poland fail to find any significant difference (See, for example, *1, 2*). And all agree that because of distorted input and output prices, administrative constraints on decisions regarding inputs or outputs, and the monopsonistic behavior of the procurement sectors, it is difficult if not impossible to evaluate the economic efficiency of the farms in these countries.

Ultimately, the market will decide the optimal farm size. The real question is how soon the market will begin to work. To make a rational decision on farm size, farmers must face market prices for inputs and outputs. If marginal farmers are to give up their farms voluntarily, they must have an alternative source of employment or promise of an adequate pension. If a successful farmer is to expand, there must be a functioning land market and an agricultural credit system to finance such expansion.

***Central Europe Buys $403 Million of U.S. Farm Products[1]***




[1]1989.

## Land Holding Legislation in Central Europe

### *Measures Affecting Private Farmers*

#### Romania

*Decree 42 - Land for Private Agriculture.* This decree gave to the general councils of cooperative farms in hilly and mountainous areas the right to apportion arable areas, pastures, vineyards, and orchards to farmers in their respective localities for long-term use provided the farmers do not hire outside labor. These cooperative members can also be extended the use of buildings, stables, and other facilities of the cooperative farms.

In other zones of the country, the general councils of cooperative farms may assign arable lands of up to 0.5 ha to any cooperative member and to anyone willing to return to the countryside (and join a cooperative). Up to 0.25 ha of arable land per family may also be assigned to other citizens who are not cooperative members provided they cultivate the land and pay an annual tax to the cooperative farm. State farms may also assign arable lands up to 0.5 ha to their permanent workers.

The lands covered by the houses of the farmers, their gardens, and front yards become their private property which can be sold and inherited. This area, together with the plot received for use, cannot extend to more than 0.6 ha. This size plot probably does not constitute an economically viable farm for other than possibly fruit, vegetable, or livestock products. Thus, it seems that the authors of the decree intend that the production of grains and technical crops will remain with the cooperative and state farms.

This decree also declares that farmers are free to sell their products both in the marketplace and under contracts to other buyers.

*Decree on Aid to Private Farmers.* Soon after a second decree on agriculture was passed, outlining future infrastructural and financial assistance to private farmers.

The stated goal of these decrees was the remaking of peasant farmsteads, by giving peasants land for use or ownership and according them economic and financial assistance. However, the governing National Salvation Front (NSF) has stated that it is against returning agricultural land to previous owners (i.e., that which had been confiscated and collectivized or nationalized).

#### Bulgaria

Decree No. 56, passed under Todor Zhivkov in 1989, allows private farms to register as enterprises. Zhivkov also introduced a land-leasing law similar to that in the USSR, which evoked a similar lack of interest among peasants. The post-Zhivkov Government made large quantities of land available to citizens interested in farming it, not just cooperative members, as was the case in the past. Private farms are now allowed to hire a limited amount of outside help and most restrictions on marketing have been removed. Subsequent legislation allows private Bulgarian farmers to export directly and retain a portion of the hard currency earnings.

#### Yugoslavia

The Yugoslav Government has removed all restrictions on the size of private land holding, and legislation passed in 1990 allows private farms to register as "firms," which gives them all the rights of socialized enterprises, including the right to engage directly in foreign trade. Also, private farmers can now obtain credit directly from banks. Previously, credit was made available to farmers through the socialized purchasing organizations, such that only farmers who signed delivery contracts had access to credit. Now, all farmers have equal access to credit (constrained, of course, by the government's strict monetary controls). The turnover tax imposed on private farmers for the purchase of spare parts, equipment, and construction materials (which was not imposed on the socialized farms) has been abolished.

### *Privatization*

#### Hungary

The State Property Agency (SPA) becomes the privatization body that holds title to state-owned property. Potential buyers are to put up 50 percent of the price of the asset they wish to purchase. They are then eligible for a preferential loan for the other 50 percent, with an interest rate which is 75 percent of the existing refinancing rate (which would currently be 15 percent).

This program is not a one-time ownership reform, but rather a process that is supposed to extend for 3 to 5 years. The target is that at the end of 3 years, state ownership should be reduced to below 50 percent of the economy. The SPA is to begin the privatization process with all state-owned businesses in retail trade, catering, and consumer services.

In accordance with this program, the SPA recently announced the privatization of all its holding companies and released the names of 20 companies that will be first to go. The holding companies are those which have more than half their assets in subsidiary companies. Before privatization, holding companies will have to clarify the state of their finances and lines of responsibility. In January, the privatization of the construction industry is scheduled to get underway.

**Czechoslovakia**

The Czechoslovak Federal Assembly passed a Restitution Law on October 2, 1990. Effective November 1, 1990, it allows people to reclaim small businesses, shops, and other property confiscated by the state between 1955 and 1959. Former owners and their heirs have a 6-month deadline to file their claims.

The government has focused most of its attention on the passage of two privatization laws that are more far-reaching in their scope. One, the Small Privatization Bill, enacted at the end of October and effective December 1, 1990, applies to shops, services, and small businesses run by state enterprises, but not to cooperative property nor those shops or services that are the subject of the Restitution Law. Privatization is to be carried out through auctions, which were to begin at the end of January 1991. The bill gives priority to people who acquired the use of the premises in the past by leasing from the state. They can buy a shop or service business at least 5 days before the auction is scheduled at the initial price set by the government. All buyers must pay the agreed-upon price of the shop or service (including its stocks) within 30 days. No financing schemes are set down by the bill, as had been envisioned in its earlier drafts. Buyers of food shops are required to continue selling food for at least a year unless a local council shortens this period at their request.

The other law, the Large Privatization Bill, has two aims, both of which are broader than those of the Small Privatization Law. First, it focuses on the transfer of state enterprises outside of the retail and service sectors. It is also meant to be a mechanism for compensation to former owners. It proposes that the state will return assets nationalized after February 25, 1948, and that the owners will be reimbursed in the form of government stock.

Under this law, every citizen receives the right to an equal number of investment coupons, which are purchased for a nominal fee of 2,000 koruny ($80) and then validated at a specified office. Should someone want more coupons than are due, he or she may purchase them, but at a much higher price. However, all coupons will have the same value and be transferable. Only after coupons have been exchanged for shares of a particular enterprise may an individual sell the shares.

Compensation to former owners will be addressed through the issue of shares, not coupons. People who were once deprived of property that is not included in the Restitution Law will be allowed to select shares of a company of their choice as compensation. Under the Large Privatization Bill, 40 to 80 percent of the shares of state enterprises are to be offered for sale through the coupon system.

The bill was passed into law on November 1. Within 3 months, the federal and Czech and Slovak Governments had to work out the principles of the methods of the Large Privatization. After this, the central authorities will submit the list of enterprises eligible for privatization. Privatization could begin as early as March. Meanwhile, the Czechoslovak Communist Party has proposed a bill that will exclude certain types of property from the Large Privatization Bill (mineral resources, forests, cultural monuments, etc.).

**Romania**

In February 1990, the NSF issued a decree allowing any Romanian citizen residing in Romania to start a company of 20 or more employees, with the goods and services produced by the new firms to be sold on the free market at freely determined prices. Such a firm can hire individuals who are currently jobless or those already employed by the state or a cooperative provided they work outside their regular hours.

Two months later, the government passed the Law on Reorganizing State Economic Units. This law allows state economic entities to reorganize themselves as autonomous companies or commercial societies and gives them complete freedom regarding their production, supply and sales programs, wages and employment policies, investment and foreign trade decisions, and prices. In January 1991, the central planning system was replaced by an indicative planning framework that allows all firms complete freedom to organize and manage their productive and commercial activities.

The privatization of state enterprises, including the offering of their assets for purchase by private individuals, is not scheduled to begin until July 1991.

## Land Tenure Legislation

### Czechoslovakia

The Czechoslovak Federal Assembly has passed two laws specifically targeted to ownership rights to agricultural land:

*The Land Use Law.* This law seeks to resolve the conflict between the rights of former owners and the rights of the currently existing agricultural enterprises to use the land they occupy. The Law states that the Right of Use is absolute, that an agricultural organization has the right to use the land and other agricultural property to the same extent as if it were the owner. Moreover, everything that grows on lands used by state or cooperative agricultural organizations is the property of the state or cooperative agricultural organizations, respectively.

Another important section of the law stipulates that the agricultural organization that has the Right of Use may, with the consent of the owner, transfer lands for temporary use to members of the organization and other citizens. The Right of Use is always transferred free of charge.

The Right of Use can be terminated by the Okres (District) National Committee upon petition of the owner of the land. However, agricultural lands will be returned to their owners only for agricultural purposes. If land claimed by a former owner has been built on, improved, or made otherwise inaccessible, the agricultural cooperative or state agricultural organization using the land is obligated to satisfy the owner's claim with other suitable land owned by the organization. If the agricultural organization does not own such lands, it is obligated to transfer other suitable land to the owner for temporary use free of charge. (It is not clear, however, just how such an organization can transfer land it does not own.)

*Agricultural Cooperatives Law.* In Section 46 of the Agricultural Cooperatives Law, a special category of land ownership is implicitly defined: Cooperatively Owned Lands. These are lands "provided as compensation during the implementation of econo-technical improvements on the land." This definition is not elaborated on in other sections of the Law. It seems that the intent of this section is that in the event that land ownership status is returned to that of the pre-collectivization period (forcing cooperatives to return land to the previous owners), the cooperatives will be able to lay claim to some of the lands they currently use. The justification for these ownership claims will be that the cooperatives have made improvements to the land and deserve compensation in the form of land for these investments.

Since the passage of the two Laws described above, the Czechoslovak Ministry of Agriculture and Food has stated that it is preparing additional bills, among which is an entirely new one on land.

### Romania

At this writing, no new bill of Land Stock has been passed to clear up the many ambiguities of Law 42/1990.

### Bulgaria

In 1990, the Bulgarian Parliament proposed a draft land law, still under debate, which at least partially resolves ownership issues. Its main provisions are as follows:

*Recognition of the ownership rights of former owners.* However, former owners will not be allowed to get back the land that was taken from them. According to the Minister of Agriculture, this would be impossible because "there were 980,000 private farms with an average size of 49 decares [1] which were scattered in 13-14 different pieces. This land no longer exists: it was changed qualitatively and quantitatively" (*3*). Rather, they will be entitled to dividends and income from the land. If they wish to establish a private farm, they will be granted land on a priority basis.

*An extension of the land leasing system set up by Zhivkov.* This system is modelled after the Soviet leasing system, allowing cooperative farm workers to lease land for periods of up to 50 years, with inheritance rights. It is not at all clear how well this system has worked. Indeed, one is left wondering what incentive a peasant has to lease land, when the Government at the same time has been turning parcels of land over for private use free of charge.

*Provisions ensuring the preservation of agricultural land.* Any land that is turned over for private use must be used for agricultural purposes. It is forbidden to use the land for any other type of commercial enterprise. In connection with this requirement, the government has declined to allow a free land market. Farmers can sell land only to the State and can only purchase land through the State.

### Yugoslavia

The only piece of legislation passed by Yugoslavia that addresses the question of land ownership is the 1990 Law on Cooperatives. This law allows the restoration of the farmer-owned cooperatives which existed prior to the collectivization. It also states that the land confiscated from those cooperatives should be returned. This land, however, is apparently not intended to pass into private ownership.

[1] 1 decare = 0.2471 acre.

## USDA To Assist Agriculture in Central Europe

As Central European countries continue their efforts to establish democratic systems and market economies, their food and agricultural systems are changing. Change creates challenges and opportunities for U.S. agriculture. USDA will be working with them to foster the development of more modern, market-oriented food and agricultural systems.

One avenue for USDA participation in Central Europe is through funding provided under the Support for East European Democracy Act (SEED II). The Department has received $5 million in funding to support several major activities. The Economic Research Service (ERS) will work with counterparts in Poland, Hungary, Czechoslovakia, and Bulgaria to establish market-oriented economic information systems that can provide farmers and policymakers with timely data and analysis. The Extension Service will work with Polish counterparts to create an effective, farmer-oriented extension system. Agricultural training and technology transfer will be provided by the Office for International Cooperation and Development (OICD) in Poland, Hungary, and Czechoslovakia.

A second avenue for USDA participation is through the new farm bill's mandate to assist emerging democracies to develop market economies through the sharing of U.S. agricultural expertise. The program's intent is to enhance prospects for U.S. agricultural exports by fielding teams of experts to address specific problem areas in food and agribusiness systems in these countries. The Foreign Agricultural Service's (FAS) Eastern European and Soviet Secretariat would work closely with other USDA agencies, other Federal agencies, and private organizations to develop programs for Czechoslovakia, Hungary, and Bulgaria in fiscal 1991. [Cheryl Christensen (202) 219-0008]

## Statistical Annex on Central Europe

**Table 1—Growth of GNP, Central Europe, 1961-90**

| Country | 1961-70 | 1971-80 | 1981-85 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | *Percent 1/* | | | | |
| Bulgaria | 5.8 | 2.8 | 0.3 | -3.0 | 4.8 | -1.0 | 0.9 | -0.1 | -9.5 |
| Czechoslovakia | 2.9 | 2.8 | 1.3 | 0.7 | 2.1 | 1.1 | 1.8 | 1.0 | -1.3 |
| East Germany | 3.1 | 2.8 | 1.5 | 3.1 | 1.5 | 1.7 | 1.8 | 1.2 | -9.1 |
| Hungary | 3.4 | 2.6 | 0.5 | -2.5 | 2.2 | 0.7 | 2.0 | -1.3 | -8.2 |
| Poland | 4.2 | 3.6 | 1.8 | 1.0 | 2.8 | -2.0 | 1.6 | -1.6 | -18.4 |
| Romania | 5.2 | 5.3 | 1.0 | -1.0 | 3.6 | -0.8 | 1.7 | -1.5 | -18.6 |
| Yugoslavia | na | 5.0 | 1.3 | 0.9 | 3.9 | -0.6 | 0.1 | -1.0 | -9.1 |
| Central Europe | 3.1 | 3.4 | 1.3 | 0.5 | 2.5 | -0.1 | 1.5 | -0.3 | -11.4 |

na = Not available. 1/ Average annual growht rate.
Sources: U.S. Central Intelligence Agency, Handbook of Economic Statictics, 1990 (Washington, DC: September 1990); Wall Street Journal, January 11, 1991.

**Table 2—Hard currency debt, Central Europe, 1971-90**

| Country/item | 1971 | 1975 | 1980 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | *Billion dollars* | | | | |
| Bulgaria: | | | | | | | | | |
| Gross debt— | 0.7 | 2.6 | 3.5 | 3.7 | 4.9 | 6.2 | 7.5 | 10.0 | 10.4 |
| Government | 0.3 | 0.2 | 0.3 | 0.6 | 0.7 | 0.9 | 1.0 | 1.2 | na |
| Commercial | 0.4 | 2.5 | 3.2 | 3.1 | 4.2 | 5.3 | 6.5 | 8.8 | na |
| Other 1/ | — | — | — | — | — | — | — | — | — |
| Net debt | 0.7 | 1.4 | 2.8 | 1.5 | 3.6 | 5.1 | 6.0 | 7.1 | na |
| Debt service ratio 2/ | na | na | 33 | 20 | 15 | 23 | 38 | 45 | na |
| Czechoslovakia: | | | | | | | | | |
| Gross debt— | 0.4 | 1.0 | 5.0 | 3.8 | 4.5 | 5.8 | 6.1 | 7.8 | 7.1 |
| Government | 0.2 | 0.2 | 0.9 | 1.0 | 1.1 | 1.3 | 1.3 | 1.9 | na |
| Commercial | 0.3 | 0.9 | 4.1 | 3.4 | 0.4 | 4.5 | 4.8 | 5.9 | na |
| Other 1/ | — | — | — | — | — | — | — | — | — |
| Net debt | 0.2 | 0.6 | 3.7 | 2.8 | 3.3 | 4.2 | 4.3 | 4.5 | na |
| Debt service ratio 2/ | na | na | 22 | 17 | 16 | 17 | 15 | 25 | na |
| Hungary: | | | | | | | | | |
| Gross debt— | 1.1 | 3.1 | 9.1 | 11.8 | 15.1 | 17.8 | 18.0 | 20.7 | 20.9 |
| Government | 0.1 | — | 0.3 | 0.8 | 0.9 | 1.0 | 1.0 | 3.2 | na |
| Commercial | 1.0 | 3.1 | 8.8 | 9.8 | 12.7 | 15.2 | 15.6 | 15.7 | na |
| Other 1/ | na | — | — | 1.2 | 1.5 | 1.6 | 1.4 | 1.8 | na |
| Net debt | 0.9 | 1.5 | 5.9 | 8.6 | 12.0 | 15.8 | 17.1 | 18.2 | na |
| Debt service ratio 2/ | na | na | 31 | 58 | 73 | 55 | 43 | 34 | na |
| Poland: | | | | | | | | | |
| Gross debt— | 1.1 | 8.0 | 25.0 | 29.3 | 33.5 | 39.2 | 38.5 | 39.7 | 45.2 |
| Government | 0.8 | 2.1 | 10.1 | 18.7 | 21.4 | 26.4 | 26.6 | 26.3 | na |
| Commercial | 0.3 | 5.9 | 14.9 | 10.6 | 12.1 | 12.8 | 11.9 | 13.4 | na |
| Other 1/ | na | — | — | — | — | — | — | — | na |
| Net debt | 0.8 | 4.1 | 23.6 | 28.4 | 32.8 | 37.7 | 36.5 | 37.8 | na |
| Debt service ratio 2/ | na | na | 97 | 65 | 81 | 69 | 70 | 74 | na |
| Romania: | | | | | | | | | |
| Gross debt— | 1.2 | 2.9 | 9.4 | 6.6 | 6.4 | 5.1 | 2.2 | 0.4 | — |
| Government | 0.6 | 0.7 | 1.7 | 1.1 | 1.1 | 0.8 | 0.6 | 0.2 | — |
| Commercial | 0.6 | 2.0 | 6.5 | 3.0 | 2.7 | 1.7 | 0.4 | 0.2 | — |
| Other 1/ | — | 0.2 | 1.2 | 2.5 | 2.6 | 2.6 | 1.2 | — | — |
| Net debt | 1.2 | 2.5 | 8.3 | 6.4 | 5.8 | 3.6 | 0.7 | — | — |
| Debt service ratio 2/ | na | na | 26 | 26 | 35 | 30 | 37 | 23 | na |
| Yugoslavia: | | | | | | | | | |
| Gross debt— | 3.2 | 6.6 | 17.5 | 18.8 | 19.3 | 18.7 | 18.2 | 16.2 | 15.5 |
| Government | 0.8 | 1.6 | 2.6 | 7.1 | 7.4 | 6.6 | 5.4 | 5.5 | na |
| Commercial | 2.0 | 4.3 | 12.8 | 7.5 | 4.3 | 7.6 | 7.0 | 6.9 | na |
| Other 1/ | 0.3 | 0.7 | 2.1 | 4.2 | 4.3 | 4.5 | 5.0 | 3.8 | na |
| Net debt | na | na | 14.8 | 18.1 | 17.9 | 16.7 | 15.6 | 14.2 | na |
| Debt service ratio 2/ | na | na | 23 | 44 | 45 | 38 | 31 | 38 | 29 |
| Subtotal: | | | | | | | | | |
| Gross debt— | 7.7 | 24.4 | 69.4 | 74.4 | 83.8 | 92.8 | 90.5 | 94.8 | 99.1 |
| Government | 2.8 | 5.7 | 15.9 | 29.2 | 32.6 | 37.0 | 35.9 | 38.3 | na |
| Commercial | 4.6 | 18.7 | 50.3 | 36.2 | 36.4 | 47.1 | 46.2 | 50.9 | na |
| Other 1/ | 0.3 | 0.9 | 3.3 | 7.9 | 8.4 | 8.7 | 7.6 | 5.6 | na |
| Net debt | na | na | 59.1 | 65.8 | 75.4 | 83.1 | 80.2 | 81.8 | na |
| Debt service ratio 2/ | na | na | 52 | 42 | 60 | 52 | 50 | 50 | na |
| East Germany: | | | | | | | | | |
| Gross debt— | 1.4 | 5.4 | 14.1 | 14.0 | 17.0 | 20.4 | 19.5 | 21.2 | NA |
| Government | 0.7 | 0.1 | 2.8 | 3.9 | 3.9 | 3.9 | 3.3 | 3.0 | NA |
| Commercial | 0.7 | 4.4 | 11.3 | 10.1 | 13.1 | 16.5 | 16.2 | 18.2 | NA |
| Other 1/ | — | — | — | — | — | — | — | — | NA |
| Net debt | 1.2 | 2.6 | 11.6 | 7.2 | 9.1 | 10.9 | 10.4 | 9.6 | NA |
| Debt service ratio 2/ | na | na | 44 | 33 | 36 | 36 | 38 | 45 | NA |

Note: Data may not add because of rounding.
na = Not available. NA = Not applicable because of German unification. — = Less than $0.05 billion. 1/ IMF and World Bank. 2/ Principal and interest payments as percent of foreign exchange earnings.
Sources: U.S. Central Intelligence Agency, Handbook of Economic Statistics, various issues, and unpublished data; Iliana Zloch, "Hard-Currency Debt and the Growth of the East European Economies," unpublished manuscript, the World Bank, Washington, DC, 1986; and Vienna Institute of Comparative Economic Studies, unpublished data, 1985.

**Table 3—Production of grains, Central Europe, 1976-80 and 1981-85 averages and 1986-89 annual**

| Commodity and year | Bulgaria | Czecho-slovakia | East Germany | Hungary 1/ | Poland | Romania 2/ | Yugo-slavia | Total Central Europe |
|---|---|---|---|---|---|---|---|---|
| | | | | *1,000 tons* | | | | |
| Wheat: | | | | | | | | |
| 1976-80 | 3,513 | 4,949 | 2,998 | 5,186 | 5,089 | 6,104 | 5,306 | 33,145 |
| 1981-85 | 4,174 | 5,389 | 3,414 | 6,066 | 5,263 | 6,038 | 5,089 | 35,433 |
| 1986 | 4,327 | 5,305 | 4,195 | 5,793 | 7,502 | 6,700 | 4,776 | 38,598 |
| 1987 | 4,149 | 6,154 | 4,040 | 5,748 | 7,942 | 6,000 | 5,272 | 39,305 |
| 1988 | 4,713 | 6,547 | 3,699 | 7,026 | 7,582 | 8,632 | 6,300 | 44,499 |
| 1989 | 4,450 | 6,200 | 3,450 | 6,300 | 8,500 | 7,935 | 5,598 | 42,433 |
| Rye: | | | | | | | | |
| 1976-80 | 20 | 578 | 1,748 | 135 | 6,474 | 50 | 87 | 9,092 |
| 1981-85 | 37 | 642 | 2,205 | 145 | 8,089 | 47 | 80 | 11,244 |
| 1986 | 52 | 547 | 2,406 | 172 | 7,074 | 60 | 74 | 10,385 |
| 1987 | 49 | 496 | 2,283 | 186 | 6,816 | 90 | 69 | 9,989 |
| 1988 | 50 | 534 | 1,785 | 255 | 5,501 | 120 | 76 | 8,321 |
| 1989 | 45 | 530 | 2,070 | 200 | 8,600 | 110 | 75 | 11,630 |
| Barley: | | | | | | | | |
| 1976-80 | 1,532 | 3,386 | 3,715 | 772 | 3,560 | 1,981 | 664 | 15,610 |
| 1981-85 | 1,194 | 3,507 | 3,983 | 1,010 | 3,618 | 2,423 | 700 | 16,436 |
| 1986 | 1,144 | 3,530 | 4,293 | 857 | 4,412 | 2,000 | 703 | 16,939 |
| 1987 | 1,091 | 3,551 | 4,198 | 794 | 4,335 | 2,100 | 504 | 16,573 |
| 1988 | 1,306 | 3,411 | 3,798 | 1,183 | 3,804 | 3,202 | 615 | 17,319 |
| 1989 | 1,450 | 3,600 | 4,700 | 1,200 | 3,900 | 3,436 | 702 | 18,988 |
| Oats: | | | | | | | | |
| 1976-80 | 70 | 423 | 525 | 90 | 2,434 | 56 | 298 | 3,896 |
| 1981-85 | 42 | 471 | 678 | 138 | 2,600 | 86 | 267 | 4,282 |
| 1986 | 42 | 423 | 666 | 126 | 2,486 | 150 | 260 | 4,153 |
| 1987 | 41 | 410 | 637 | 99 | 2,428 | 100 | 232 | 3,947 |
| 1988 | 35 | 414 | 507 | 134 | 2,222 | 160 | 253 | 3,725 |
| 1989 | 30 | 400 | 476 | 130 | 2,200 | 130 | 279 | 3,645 |
| Corn: | | | | | | | | |
| 1976-80 | 2,652 | 724 | 2 | 6,374 | 165 | 11,097 | 9,192 | 30,206 |
| 1981-85 | 2,656 | 885 | 1 | 6,977 | 65 | 13,001 | 10,568 | 34,153 |
| 1986 | 2,848 | 992 | 2 | 7,261 | 113 | 15,000 | 12,526 | 38,742 |
| 1987 | 1,858 | 1,160 | 35 | 7,234 | 146 | 9,000 | 8,863 | 28,296 |
| 1988 | 1,625 | 996 | 55 | 6,256 | 204 | 7,182 | 7,697 | 24,015 |
| 1989 | 2,000 | 1,000 | 60 | 6,800 | 200 | 6,762 | 9,415 | 26,237 |
| Rice: 3/ | | | | | | | | |
| 1976-80 | 62 | — | — | 31 | — | 48 | 34 | 175 |
| 1981-85 | 68 | — | — | 41 | — | 85 | 39 | 233 |
| 1986 | 62 | — | — | 47 | — | 177 | 48 | 334 |
| 1987 | 53 | — | — | 40 | — | 154 | 49 | 296 |
| 1988 | 50 | — | — | 47 | — | 160 | 36 | 293 |
| 1989 | 50 | — | — | 30 | — | 42 | 45 | 167 |
| Other grains: 4/ | | | | | | | | |
| 1976-80 | — | — | 49 | 45 | 1,773 | 47 | 7 | 1,921 |
| 1981-85 | — | — | 107 | 40 | 2,589 | 19 | 4 | 2,760 |
| 1986 | — | — | 102 | 44 | 3,449 | 20 | 6 | 3,621 |
| 1987 | — | — | 64 | 66 | 4,393 | 20 | 6 | 4,549 |
| 1988 | — | — | — | 61 | 3,400 | 47 | 6 | 3,514 |
| 1989 | — | — | 50 | — | 3,400 | 871 | 4 | 4,325 |
| Total grains: | | | | | | | | |
| 1976-80 | 7,849 | 10,043 | 9,037 | 12,633 | 19,495 | 19,383 | 15,588 | 94,028 |
| 1981-85 | 8,169 | 10,893 | 10,388 | 14,418 | 22,224 | 21,700 | 16,749 | 104,542 |
| 1986 | 8,475 | 10,797 | 11,664 | 14,300 | 25,036 | 24,107 | 18,393 | 112,772 |
| 1987 | 7,241 | 11,771 | 11,257 | 14,167 | 26,060 | 17,464 | 14,995 | 102,955 |
| 1988 | 7,779 | 11,902 | 9,844 | 14,962 | 22,713 | 19,503 | 14,983 | 101,686 |
| 1989 | 8,025 | 11,730 | 10,806 | 14,660 | 26,800 | 19,286 | 16,118 | 107,425 |

— = Data not available or amount under 1,000 tons. 1/ Includes grain production from private plots and gardens which averaged 83,000 tons in 1976-80 and 219,000 tons in 1981-85. The accuracy of Romania's grain production data has been increasingly questioned. Reflecting that concern, Foreign Agricultural Service estimates for 1987 have been used in preference to Romanian reports. 3/ Rough. 4/ Includes buckwheat, millet, spelt, mixed grains, triticale, and sorghum.
Sources: Statistical yearbooks of the respective countries.

**Table 4—Area of grains, Central Europe, 1976-80 and 1981-85 averages and 1986-89 annual**

| Commodity and year | Bulgaria | Czecho-slovakia | East Germany | Hungary 1/ | Poland | Romania | Yugo-slavia | Total Central Europe |
|---|---|---|---|---|---|---|---|---|
| | | | | *1,000 hectares* | | | | |
| Wheat: | | | | | | | | |
| 1976-80 | 938 | 1,229 | 720 | 1,274 | 1,735 | 2,256 | 1,616 | 9,768 |
| 1981-85 | 1,083 | 1,157 | 702 | 1,307 | 1,600 | 2,236 | 1,472 | 9,557 |
| 1986 | 1,127 | 1,213 | 749 | 1,318 | 2,025 | 2,530 | 1,346 | 10,308 |
| 1987 | 1,085 | 1,217 | 748 | 1,301 | 2,132 | 2,050 | 1,455 | 9,988 |
| 1988 | 1,182 | 1,245 | 765 | 1,281 | 2,179 | 2,415 | 1,506 | 10,573 |
| 1989 | 1,185 | 1,250 | 770 | 1,235 | 2,195 | 2,359 | 1,479 | 10,473 |
| Rye: | | | | | | | | |
| 1976-80 | 15 | 186 | 645 | 81 | 2,997 | 40 | 64 | 4,028 |
| 1981-85 | 27 | 186 | 686 | 76 | 3,270 | 40 | 50 | 4,335 |
| 1986 | 30 | 156 | 680 | 89 | 2,760 | 40 | 42 | 3,797 |
| 1987 | 29 | 142 | 655 | 94 | 2,647 | 42 | 41 | 3,650 |
| 1988 | 30 | 143 | 607 | 97 | 2,325 | 40 | 40 | 3,282 |
| 1989 | 30 | 155 | 620 | 97 | 2,924 | 40 | 37 | 3,903 |
| Barley: | | | | | | | | |
| 1976-80 | 485 | 919 | 981 | 237 | 1,288 | 662 | 298 | 4,869 |
| 1981-85 | 326 | 875 | 917 | 275 | 1,185 | 791 | 282 | 4,650 |
| 1986 | 318 | 821 | 895 | 253 | 1,335 | 575 | 276 | 4,473 |
| 1987 | 295 | 840 | 891 | 205 | 1,286 | 650 | 213 | 4,380 |
| 1988 | 345 | 800 | 874 | 264 | 1,250 | 764 | 222 | 4,519 |
| 1989 | 350 | 820 | 897 | 277 | 1,175 | 768 | 242 | 4,529 |
| Oats: | | | | | | | | |
| 1976-80 | 49 | 162 | 157 | 36 | 1,067 | 52 | 215 | 1,738 |
| 1981-85 | 35 | 150 | 178 | 48 | 1,043 | 72 | 169 | 1,695 |
| 1986 | 28 | 116 | 163 | 41 | 924 | 70 | 152 | 1,494 |
| 1987 | 28 | 109 | 149 | 40 | 856 | 80 | 140 | 1,402 |
| 1988 | 35 | 103 | 156 | 42 | 850 | 85 | 135 | 1,406 |
| 1989 | 25 | 115 | 143 | 42 | 803 | 90 | 144 | 1,362 |
| Corn: | | | | | | | | |
| 1976-80 | 657 | 202 | — | 1,297 | 41 | 3,295 | 2,256 | 7,748 |
| 1981-85 | 551 | 205 | 0 | 1,122 | 16 | 3,041 | 2,308 | 7,243 |
| 1986 | 574 | 218 | — | 1,118 | 22 | 3,200 | 2,369 | 7,501 |
| 1987 | 497 | 220 | 7 | 1,144 | 32 | 3,500 | 2,218 | 7,618 |
| 1988 | 494 | 210 | 11 | 1,103 | 40 | 2,579 | 2,269 | 6,706 |
| 1989 | 500 | 215 | 10 | 1,080 | 35 | 2,733 | 2,268 | 6,841 |
| Rice: | | | | | | | | |
| 1976-80 | 17 | — | — | 23 | — | 21 | 8 | 69 |
| 1981-85 | 15 | — | — | 13 | — | 28 | 9 | 65 |
| 1986 | 13 | — | — | 12 | — | 45 | 9 | 79 |
| 1987 | 14 | — | — | 12 | — | 47 | 10 | 83 |
| 1988 | 15 | — | — | 12 | — | 48 | 9 | 84 |
| 1989 | 16 | — | — | 15 | — | 50 | 10 | 91 |
| Other grains: 2/ | | | | | | | | |
| 1976-80 | — | — | 20 | 10 | 740 | 28 | 6 | 804 |
| 1981-85 | — | — | 31 | 16 | 980 | 15 | 3 | 1,046 |
| 1986 | — | — | 27 | 14 | 1,172 | 10 | 3 | 1,226 |
| 1987 | — | — | 19 | 14 | 1,430 | 10 | 4 | 1,477 |
| 1988 | — | — | — | 21 | 1,184 | (24) | 4 | 1,185 |
| 1989 | — | — | 18 | — | 1,162 | (13) | 2 | 1,169 |
| Total grains: | | | | | | | | |
| 1976-80 | 2,161 | 2,698 | 2,524 | 2,958 | 7,868 | 6,354 | 4,463 | 29,026 |
| 1981-85 | 2,038 | 2,573 | 2,515 | 2,856 | 8,094 | 6,223 | 4,292 | 28,591 |
| 1986 | 2,090 | 2,524 | 2,514 | 2,845 | 8,238 | 6,470 | 4,197 | 28,878 |
| 1987 | 1,948 | 2,528 | 2,469 | 2,810 | 8,383 | 6,379 | 4,081 | 28,598 |
| 1988 | 2,101 | 2,501 | 2,413 | 2,820 | 7,828 | 5,907 | 4,185 | 27,755 |
| 1989 | 2,106 | 2,555 | 2,458 | 2,746 | 8,294 | 6,027 | 4,182 | 28,368 |

— = Data not available or amount under 1,000 tons. ( ) = Estimate. 1/ Area under socialist cultivation only. 2/ Includes buckwheat, millet, spelt, mixed grains, triticale, and sorghum.
Sources: Statistical yearbooks of the respective countries.

Table 5—Grain imports, Central Europe, 1976-80 and 1981-85 averages and 1985-88 annual

| Commodity and country | 1976-80 | 1981-85 | 1985 | 1986 | 1987 | 1988 |
|---|---|---|---|---|---|---|
| | | | *1,000 tons* | | | |
| Wheat: | | | | | | |
| Bulgaria | 124 | 165 | 652 | 235 | 410 | 486 |
| Czechoslovakia | 519 | 202 | 105 | 93 | 69 | 310 |
| East Germany | 953 | 1,189 | 1,219 | 227 | 546 | 650 |
| Hungary | 8 | 26 | 28 | — | 52 | 35 |
| Poland | 2,729 | 2,634 | 1,703 | 1,662 | 2,343 | 2,317 |
| Romania | 652 | 455 | 300 | 20 | 20 | — |
| Yugoslavia | 630 | 319 | 58 | 512 | 518 | 1 |
| Total | 5,614 | 4,990 | 4,065 | 2,749 | 3,958 | 3,799 |
| Barley: | | | | | | |
| Bulgaria | 73 | 154 | 766 | 695 | 2 | 195 |
| Czechoslovakia | 126 | 14 | — | — | — | 25 |
| East Germany | 782 | 890 | 796 | 1,230 | 512 | 900 |
| Hungary | 130 | 9 | — | 102 | 373 | 112 |
| Poland | 1,410 | 368 | 383 | 192 | 316 | 380 |
| Romania | 84 | 160 | 150 | 741 | 102 | — |
| Yugoslavia | 22 | 11 | 16 | 11 | 5 | 59 |
| Total | 2,626 | 1,606 | 2,111 | 2,971 | 1,310 | 1,671 |
| Corn: | | | | | | |
| Bulgaria | 367 | 379 | 328 | 546 | 584 | 572 |
| Czechoslovakia | 942 | 566 | 221 | 176 | 163 | 105 |
| East Germany | 1,775 | 987 | 493 | 608 | 431 | 925 |
| Hungary | 116 | 23 | 85 | 23 | 102 | 2 |
| Poland | 1,985 | 795 | 138 | 140 | 229 | 126 |
| Romania | 620 | 432 | 121 | 836 | — | — |
| Yugoslavia | 240 | 77 | — | 4 | 198 | 195 |
| Total | 6,045 | 3,258 | 1,386 | 2,333 | 1,707 | 1,925 |
| Other grains: 1/ | | | | | | |
| Bulgaria | 5 | 6 | 22 | 1 | 1 | 16 |
| Czechoslovakia | 14 | 26 | 64 | 98 | 107 | 180 |
| East Germany | 341 | 191 | 53 | 301 | 49 | 99 |
| Hungary | 14 | 5 | 1 | — | 121 | 53 |
| Poland | 675 | 88 | — | — | 126 | 291 |
| Romania | 303 | 18 | — | — | — | 30 |
| Yugoslavia | 4 | 12 | 39 | 9 | 9 | 42 |
| Total | 1,356 | 346 | 179 | 409 | 413 | 711 |
| Rice: | | | | | | |
| Bulgaria | 7 | 10 | 22 | 32 | 35 | — |
| Czechoslovakia | 78 | 69 | 74 | 61 | 49 | — |
| East Germany | 44 | 34 | 29 | 37 | 27 | — |
| Hungary | 23 | 35 | 18 | 14 | 25 | — |
| Poland | 87 | 84 | 65 | 62 | 90 | — |
| Romania | 56 | 55 | 50 | 20 | 75 | — |
| Yugoslavia | 17 | 23 | 21 | 22 | 5 | — |
| Total | 313 | 311 | 279 | 248 | 306 | — |
| Total grains: | | | | | | |
| Bulgaria | 576 | 715 | 1,790 | 1,509 | 1,032 | 1,269 |
| Czechoslovakia | 1,679 | 877 | 464 | 428 | 377 | 620 |
| East Germany | 3,894 | 3,291 | 2,590 | 2,403 | 1,588 | 2,574 |
| Hungary | 291 | 97 | 132 | 139 | 660 | 202 |
| Poland | 6,887 | 3,969 | 2,289 | 2,056 | 3,089 | 3,114 |
| Romania | 1,715 | 1,120 | 621 | 1,617 | 152 | 30 |
| Yugoslavia | 914 | 443 | 134 | 558 | 781 | 297 |
| Total | 15,955 | 10,512 | 8,020 | 8,710 | 7,679 | 8,106 |

— = Data not available or amount less than 1,000 tons. 1/ Rye, oats, bran, and grain sorghum.
Sources: Statistical yearbooks of the respective countries, CEMA Yearbook, FAO Trade Yearbook, statistical yearbooks of trading partners.

**Table 6—Grain exports, Central Europe, 1976-80 and 1981-85 averages and 1985-88 annual**

| Commodity and country | 1976-80 | 1981-85 | 1985 | 1986 | 1987 | 1988 |
|---|---|---|---|---|---|---|
| | | | *1,000 tons* | | | |
| Wheat: | | | | | | |
| Bulgaria | 326 | 570 | 677 | 300 | 272 | 371 |
| Czechoslovakia | 4 | 146 | 170 | 31 | 4 | 4 |
| East Germany 1/ | 59 | 85 | 95 | 95 | 99 | 92 |
| Hungary | 682 | 1,363 | 2,001 | 1,669 | 1,281 | 1,790 |
| Poland | — | — | — | — | — | — |
| Romania | 971 | 211 | 227 | 100 | 50 | 250 |
| Yugoslavia | 18 | 95 | — | — | 2 | 405 |
| Total | 2,061 | 2,470 | 3,170 | 2,195 | 1,708 | 2,912 |
| Barley: | | | | | | |
| Bulgaria | 18 | — | — | — | — | 2 |
| Czechoslovakia | 59 | 32 | — | — | — | — |
| East Germany 1/ | 147 | 140 | 128 | 164 | 185 | 176 |
| Hungary | 8 | 18 | 17 | 2 | 1 | 51 |
| Poland | 16 | — | — | — | 13 | 10 |
| Romania | — | 7 | — | — | — | 10 |
| Yugoslavia | 4 | 7 | 4 | 3 | 1 | — |
| Total | 252 | 203 | 149 | 169 | 200 | 249 |
| Corn: | | | | | | |
| Bulgaria | 84 | 19 | — | — | 3 | 2 |
| Czechoslovakia | — | 3 | — | — | — | 3 |
| East Germany | — | — | — | — | — | — |
| Hungary | 330 | 250 | 228 | 478 | 188 | 152 |
| Poland | — | — | — | — | — | — |
| Romania | 602 | 671 | 615 | 270 | 400 | 100 |
| Yugoslavia | 249 | 668 | 900 | 1,798 | 1,166 | 56 |
| Total | 1,265 | 1,611 | 1,743 | 2,546 | 1,757 | 313 |
| Other grains: 2/ | | | | | | |
| Bulgaria | — | — | — | — | — | 4 |
| Czechoslovakia | 4 | 20 | 37 | 56 | 42 | 43 |
| East Germany | 170 | 125 | 135 | 162 | 122 | 148 |
| Hungary | 15 | 15 | 18 | 25 | 32 | 83 |
| Poland | 18 | 182 | 416 | 53 | 47 | 68 |
| Romania | 4 | — | — | — | — | 2 |
| Yugoslavia | 6 | 3 | 2 | 3 | 2 | 10 |
| Total | 217 | 345 | 608 | 299 | 245 | 358 |
| Rice: | | | | | | |
| Bulgaria | 1 | 7 | 11 | 13 | 2 | — |
| Czechoslovakia | — | — | — | — | — | — |
| East Germany | — | — | — | — | — | — |
| Hungary | — | — | — | — | — | — |
| Poland | — | — | — | — | — | — |
| Romania | 0 | 5 | 3 | 3 | 1 | — |
| Yugoslavia | — | — | — | — | — | — |
| Total | 1 | 11 | 14 | 16 | 3 | — |
| Total grains: | | | | | | |
| Bulgaria | 428 | 588 | 688 | 313 | 277 | 379 |
| Czechoslovakia | 67 | 201 | 207 | 87 | 46 | 50 |
| East Germany | 375 | 349 | 358 | 421 | 406 | 416 |
| Hungary | 1,036 | 1,645 | 2,264 | 2,174 | 1,505 | 2,076 |
| Poland | 34 | 182 | 416 | 53 | 60 | 78 |
| Romania | 1,577 | 889 | 845 | 373 | 517 | 362 |
| Yugoslavia | 277 | 774 | 906 | 1,804 | 1,713 | 471 |
| Total | 3,795 | 4,640 | 5,684 | 5,225 | 3,913 | 3,832 |

— = Data not available or amount less than 1,000 tons. 1/ Trading partners' data. 2/ Rye, oats and grain sorghum.
Sources: Statistical yearbooks of the respective countries, CEMA Yearbook, FAO Trade Yearbook, statistical yearbooks of trading partners.

Table 7—Production of selected crops, Central Europe, 1976-80 and 1981-85 averages and 1986-89 annual

| Commodity and Year | Bulgaria | Czechoslovakia | East Germany | Hungary | Poland | Romania | Yugoslavia | Total Central Europe |
|---|---|---|---|---|---|---|---|---|
| | | | | *1,000 tons* | | | | |
| Potatoes: | | | | | | | | |
| 1976-80 | 370 | 3,678 | 9,873 | 1,567 | 42,742 | 4,431 | 2,705 | 65,366 |
| 1981-85 | 431 | 3,591 | 10,116 | 1,446 | 36,594 | 5,880 | 2,572 | 60,630 |
| 1986 | 491 | 3,512 | 9,997 | 1,264 | 39,037 | 9,106 | 2,651 | 66,058 |
| 1987 | 316 | 3,072 | 12,228 | 1,077 | 36,252 | 8,500 | 2,210 | 63,655 |
| 1988 | 359 | 3,659 | 11,500 | 1,407 | 34,717 | 3,621 | 1,935 | 57,198 |
| 1989 | 360 | — | — | 1,300 | 34,400 | 4,420 | 2,359 | 42,839 |
| Sugar beets: | | | | | | | | |
| 1976-80 | 1,827 | 7,132 | 6,996 | 3,979 | 14,149 | 6,135 | 5,258 | 45,476 |
| 1981-85 | 1,084 | 7,296 | 7,233 | 4,461 | 15,606 | 6,074 | 6,124 | 47,878 |
| 1986 | 870 | 7,134 | 7,747 | 3,760 | 14,217 | 7,082 | 5,599 | 46,409 |
| 1987 | 736 | 6,697 | 7,683 | 4,258 | 13,989 | 5,500 | 6,238 | 45,101 |
| 1988 | 677 | 5,481 | 4,619 | 4,511 | 14,069 | 4,867 | 4,558 | 38,782 |
| 1989 | — | — | 6,134 | — | 14,400 | 6,771 | 6,797 | 34,102 |
| Sunflower-seed: | | | | | | | | |
| 1976-80 | 392 | 17 | — | 300 | — | 821 | 433 | 1,963 |
| 1981-85 | 450 | 39 | — | 615 | — | 784 | 211 | 2,099 |
| 1986 | 489 | 57 | — | 862 | — | 1,004 | 449 | 2,861 |
| 1987 | 410 | 62 | — | 803 | — | 650 | 486 | 2,411 |
| 1988 | 367 | 62 | — | 716 | — | 705 | 410 | 2,260 |
| 1989 | 400 | 70 | 45 | 701 | — | 656 | 417 | 2,289 |
| Rapeseed: | | | | | | | | |
| 1976-80 | — | 151 | 291 | 81 | 637 | 12 | 60 | 1,232 |
| 1981-85 | — | 255 | 307 | 86 | 693 | 28 | 99 | 1,468 |
| 1986 | — | 306 | 446 | 120 | 1,298 | 55 | 131 | 2,356 |
| 1987 | — | 337 | 366 | 107 | 1,186 | 40 | 88 | 2,124 |
| 1988 | — | 380 | 378 | 80 | 1,199 | 45 | 68 | 2,150 |
| 1989 | — | 387 | 380 | 94 | 1,600 | 60 | 75 | 2,596 |
| Soybeans: | | | | | | | | |
| 1976-80 | 114 | 4 | — | 37 | — | 293 | 56 | 504 |
| 1981-85 | 82 | 5 | — | 49 | — | 310 | 180 | 626 |
| 1986 | 54 | 3 | — | 51 | — | 472 | 225 | 805 |
| 1987 | 35 | 5 | — | 67 | — | 350 | 237 | 694 |
| 1988 | 40 | 5 | — | 81 | — | 295 | 179 | 600 |
| 1989 | 40 | 6 | — | 116 | — | 304 | 204 | 670 |
| Tobacco: | | | | | | | | |
| 1976-80 | 141 | 5 | 5 | 20 | 80 | 46 | 67 | 363 |
| 1981-85 | 127 | 6 | 5 | 22 | 100 | 30 | 74 | 364 |
| 1986 | 126 | 5 | 6 | 21 | 125 | 30 | 96 | 409 |
| 1987 | 126 | 6 | 6 | 20 | 114 | 29 | 76 | 377 |
| 1988 | 104 | 5 | 6 | 16 | 90 | 36 | 52 | 309 |
| 1989 | 76 | 5 | 6 | 15 | 60 | 28 | 57 | 247 |
| Corn silage: | | | | | | | | |
| 1976-80 | 4,866 | 14,930 | 10,951 | 6,104 | 21,512 | 4,348 | 1,253 | 63,964 |
| 1981-85 | 5,746 | 16,781 | 11,710 | 6,845 | 14,244 | 5,035 | 2,030 | 62,392 |
| 1986 | 6,227 | 17,812 | 12,924 | 6,226 | 11,390 | 850 | 2,538 | 57,967 |
| 1987 | 6,079 | 18,823 | 16,329 | 6,848 | 13,444 | 800 | 2,404 | 64,727 |
| 1988 | 5,040 | 21,176 | 16,651 | 6,542 | 12,984 | — | 2,378 | 64,771 |
| Hay: 1/ | | | | | | | | |
| 1976-80 | 2,052 | 6,129 | 4,809 | 2,903 | 8,294 | 5,636 | 3,414 | 33,237 |
| 1981-85 | 2,000 | 7,219 | 6,032 | 2,468 | 9,172 | 6,423 | 3,046 | 36,360 |
| 1986 | 2,275 | 7,598 | 6,013 | 2,353 | 9,496 | 7,408 | 3,016 | 38,159 |
| 1987 | 2,102 | 7,809 | 7,023 | 2,285 | 9,393 | 6,500 | 2,718 | 37,830 |
| 1988 | 1,986 | 7,050 | 5,805 | 2,125 | 8,977 | — | 2,469 | 28,412 |
| Feed Roots: | | | | | | | | |
| 1976-80 | 690 | 870 | 2,401 | 692 | 9,055 | 3,605 | 749 | 18,062 |
| 1981-85 | 371 | 1,271 | 3,242 | 675 | 10,799 | 3,966 | 618 | 20,942 |
| 1986 | 273 | 1,327 | 4,981 | 551 | 10,522 | 3,000 | 530 | 21,184 |
| 1987 | 290 | 1,300 | 4,884 | 361 | 10,358 | 3,100 | 629 | 20,922 |
| 1988 | 246 | 1,048 | 2,503 | 116 | 9,867 | — | 533 | 14,313 |

— = Data not available or amount less than 1,000 tons. 1/ Does not include meadow hay and includes only lucerne, clover, and vetch in Yugoslavia.

Sources: Statistical yearbooks of the respective countries, CEMA Yearbook.

**Table 8—Harvested area of selected crops, Central Europe, 1976-80 and 1981-85 averages and 1986-89 annual**

| Commodity and year | Bulgaria | Czecho-slovakia | East Germany | Hungary 1/ | Poland | Romania | Yugo-slavia | Total Central Europe |
|---|---|---|---|---|---|---|---|---|
| | | | | *1,000 hectares* | | | | |
| Potatoes: | | | | | | | | |
| 1976-80 | 35 | 223 | 566 | 110 | 2,410 | 291 | 301 | 3,936 |
| 1981-85 | 39 | 195 | 491 | 79 | 2,179 | 312 | 279 | 3,574 |
| 1986 | 40 | 182 | 459 | 68 | 2,009 | 348 | 283 | 3,389 |
| 1987 | 37 | 180 | 448 | 67 | 1,934 | 350 | 271 | 3,287 |
| 1988 | 40 | 177 | 442 | 76 | 1,866 | 326 | 274 | 3,201 |
| 1989 | 40 | | | 74 | 1,858 | 351 | 275 | |
| Sugar beets: | | | | | | | | |
| 1976-80 | 66 | 217 | 260 | 118 | 505 | 247 | 125 | 1,538 |
| 1981-85 | 51 | 212 | 246 | 115 | 472 | 273 | 144 | 1,513 |
| 1986 | 45 | 195 | 224 | 104 | 423 | 270 | 138 | 1,399 |
| 1987 | 41 | 191 | 219 | 117 | 422 | 271 | 164 | 1,425 |
| 1988 | 41 | 166 | 198 | 115 | 412 | 248 | 131 | 1,311 |
| 1989 | | | 217 | | 423 | 256 | 145 | 1,041 |
| Sunflowerseed: | | | | | | | | |
| 1976-80 | 233 | 13 | — | 185 | — | 515 | 214 | 1,160 |
| 1981-85 | 259 | 23 | — | 309 | — | 488 | 121 | 1,199 |
| 1986 | 255 | 25 | — | 391 | — | 470 | 188 | 1,329 |
| 1987 | 266 | 27 | — | 378 | — | 455 | 251 | 1,377 |
| 1988 | 238 | 30 | — | 363 | — | 466 | 209 | 1,306 |
| 1989 | 265 | 31 | 14 | 356 | — | 434 | 204 | 1,304 |
| Rapeseed: | | | | | | | | |
| 1976-80 | — | 72 | 124 | 53 | 327 | 8 | 28 | 612 |
| 1981-85 | — | 108 | 128 | 56 | 329 | 32 | 48 | 701 |
| 1986 | — | 121 | 151 | 58 | 515 | 58 | 56 | 959 |
| 1987 | — | 128 | 148 | 54 | 499 | 62 | 36 | 927 |
| 1988 | — | 130 | 150 | 39 | 471 | 60 | 29 | 879 |
| 1989 | — | 133 | 148 | 52 | 570 | 63 | 34 | 1,000 |
| Soybeans: | | | | | | | | |
| 1976-80 | 83 | 3 | — | 25 | — | 239 | 29 | 379 |
| 1981-85 | 74 | 3 | — | 26 | — | 307 | 89 | 499 |
| 1986 | 51 | 2 | — | 23 | — | 312 | 96 | 484 |
| 1987 | 36 | 3 | — | 36 | — | 350 | 105 | 530 |
| 1988 | 40 | 3 | — | 66 | — | 414 | 110 | 633 |
| 1989 | 40 | — | — | 54 | — | 512 | 88 | 694 |
| Tobacco: | | | | | | | | |
| 1976-80 | 116 | 4 | 3 | 16 | 51 | 48 | 62 | 300 |
| 1981-85 | 105 | 4 | 3 | 14 | 51 | 36 | 61 | 274 |
| 1986 | 103 | 4 | 4 | 11 | 51 | 35 | 73 | 281 |
| 1987 | 91 | 4 | 4 | 10 | 48 | 35 | 61 | 253 |
| 1988 | 91 | 4 | 4 | 8 | 42 | 35 | 52 | 236 |
| 1989 | 79 | 4 | 4 | 10 | 29 | 34 | 50 | 210 |
| Corn silage: | | | | | | | | |
| 1976-80 | 273 | 439 | 372 | 319 | 624 | 172 | 42 | 2,241 |
| 1981-85 | 356 | 445 | 369 | 322 | 431 | 150 | 72 | 2,146 |
| 1986 | 294 | 476 | 367 | 289 | 305 | 50 | 87 | 1,868 |
| 1987 | 413 | 485 | 382 | 290 | 332 | 50 | 89 | 1,868 |
| 1988 | 368 | 546 | 410 | 317 | 317 | — | 103 | 1,868 |
| Hay: 2/ | | | | | | | | |
| 1976-80 | 453 | 957 | 540 | 656 | 1,698 | 942 | 659 | 5,905 |
| 1981-85 | 485 | 1,006 | 602 | 583 | 1,820 | 886 | 627 | 6,009 |
| 1986 | 514 | 1,013 | 606 | 529 | 1,733 | 870 | 622 | 5,887 |
| 1987 | 540 | 992 | 632 | 523 | 1,672 | 850 | 617 | 5,826 |
| 1988 | 504 | 970 | 669 | 516 | 1,647 | — | 615 | 4,921 |
| Feed roots: | | | | | | | | |
| 1976-80 | 14 | 21 | 55 | 20 | 258 | 85 | 35 | 488 |
| 1981-85 | 10 | 28 | 74 | 18 | 262 | 96 | 33 | 521 |
| 1986 | 8 | 33 | 113 | 16 | 229 | 70 | 32 | 501 |
| 1987 | 9 | 30 | 104 | 11 | 223 | 70 | 32 | 479 |
| 1988 | 8 | 30 | 64 | 3 | 210 | — | 31 | 346 |

— = Data not available or amount less than 1,000 tons. 1/ Area under socialist cultivation only. 2/ Does not include meadow hay and includes only lucerne, clover, and vetch in Yugoslavia.
Sources: Statistical yearbooks of the respective countries. CEMA Yearbook.

Table 9—Imports of selected agricultural commodities, Central Europe, 1976-80 and 1981-85 averages and 1985-88 annual

| Commodity and country | 1976-80 | 1981-85 | 1985 | 1986 | 1987 | 1988 |
|---|---|---|---|---|---|---|
| | | | *1,000 tons* | | | |
| Oilseeds: 1/ | | | | | | |
| Bulgaria | 9 | 20 | 50 | 144 | 117 | 190 |
| Czechoslovakia | 135 | 69 | 50 | 66 | 55 | 79 |
| East Germany | 55 | 79 | 75 | 73 | 55 | 87 |
| Hungary | 8 | 4 | 3 | 22 | 45 | 9 |
| Poland | 143 | 95 | 29 | 5 | 6 | 10 |
| Romania | 251 | 254 | 182 | 435 | 503 | 252 |
| Yugoslavia | 163 | 295 | 297 | 251 | 269 | 304 |
| Total | 764 | 815 | 686 | 996 | 1,050 | 931 |
| Vegetable oil, edible: | | | | | | |
| Bulgaria | 1 | 11 | 13 | 20 | 15 | 38 |
| Czechoslovakia | 44 | 46 | 43 | 69 | 59 | 47 |
| East Germany | 113 | 94 | 86 | 71 | 70 | 72 |
| Hungary | 13 | 10 | 6 | 35 | 4 | 6 |
| Poland | 78 | 77 | 65 | 79 | 96 | 107 |
| Romania | 9 | 6 | 4 | 5 | 11 | 20 |
| Yugoslavia | 52 | 121 | 134 | 96 | 0 | 5 |
| Total | 310 | 364 | 351 | 375 | 255 | 295 |
| Meat and meat products: 2/ | | | | | | |
| Bulgaria | 9 | 4 | 6 | 11 | 10 | 31 |
| Czechoslovakia | 26 | 24 | 29 | 31 | 22 | — |
| East Germany | 24 | 57 | 17 | 10 | 14 | 20 |
| Hungary | 13 | 14 | 4 | 19 | 13 | 16 |
| Poland | 48 | 104 | 55 | 13 | 14 | 52 |
| Romania | 39 | 26 | 13 | 15 | — | — |
| Yugoslavia | 38 | 40 | 26 | 59 | 57 | — |
| Total | 196 | 269 | 150 | 158 | 130 | — |
| Sugar: 3/ | | | | | | |
| Bulgaria | 228 | 348 | 445 | 438 | 448 | 373 |
| Czechoslovakia | 89 | 147 | 203 | 156 | 165 | 171 |
| East Germany | 209 | 261 | 265 | 304 | 282 | 370 |
| Hungary | 84 | 29 | 6 | 8 | 14 | 7 |
| Poland | 58 | 66 | — | 44 | 161 | 61 |
| Romania | 112 | 231 | 386 | 200 | 228 | 200 |
| Yugoslavia | 85 | 133 | 13 | 11 | 15 | 57 |
| Total | 867 | 1,214 | 1,318 | 1,161 | 1,313 | 1,239 |
| Tobacco: | | | | | | |
| Bulgaria | 7 | 26 | 30 | 41 | 22 | 16 |
| Czechoslovakia | 21 | 21 | 21 | 19 | 22 | 21 |
| East Germany | 20 | 20 | 20 | 19 | 20 | 25 |
| Hungary | 7 | 6 | 5 | 6 | 8 | 6 |
| Poland | 12 | 14 | 10 | 12 | 17 | 22 |
| Romania | 1 | 2 | 3 | 4 | 10 | 10 |
| Yugoslavia | 4 | 9 | 14 | 6 | 7 | 6 |
| Total | 72 | 98 | 103 | 107 | 106 | — |
| Oilseed meal: | | | | | | |
| Bulgaria | 194 | 313 | 482 | 354 | 559 | 471 |
| Czechoslovakia | 643 | 755 | 785 | 741 | 483 | 502 |
| East Germany | 949 | 1,086 | 838 | 838 | 829 | 818 |
| Hungary | 614 | 679 | 654 | 566 | 637 | 646 |
| Poland | 1,160 | 912 | 998 | 1,165 | 1,345 | 1,350 |
| Romania | 297 | 225 | 126 | 86 | 44 | 69 |
| Yugoslavia | 172 | 171 | 133 | 154 | 141 | 157 |
| Total | 4,028 | 4,140 | 4,016 | 3,904 | 4,038 | 4,013 |
| Cotton: | | | | | | |
| Bulgaria | 57 | 72 | 87 | 80 | 68 | 86 |
| Czechoslovakia | 109 | 121 | 126 | 115 | 126 | 120 |
| East Germany | 90 | 112 | 117 | 115 | 116 | 116 |
| Hungary | 93 | 85 | 81 | 95 | 88 | 91 |
| Poland | 163 | 153 | 166 | 147 | 136 | 190 |
| Romania | 111 | 101 | 102 | 92 | 93 | 87 |
| Yugoslavia | 107 | 117 | 145 | 126 | 105 | 111 |
| Total | 731 | 761 | 824 | 770 | 732 | 801 |
| Hides and skins: | | | | | | |
| Bulgaria | 6 | 9 | 12 | 12 | 12 | 10 |
| Czechoslovakia 4/ | 52 | 105 | 163 | 179 | — | — |
| East Germany | 17 | 12 | 10 | 9 | 11 | 13 |
| Hungary | 34 | 29 | 25 | 27 | 23 | 22 |
| Poland | 42 | 41 | 48 | 32 | 36 | 36 |
| Romania | 44 | 36 | 30 | 30 | 35 | — |
| Yugoslavia | 28 | 31 | 43 | 33 | 16 | — |
| Total | 222 | 263 | 331 | 322 | 133 | 81 |

— = Data not available or amount less than 1,000 tons. 1/ Rapeseed, soybeans, and sunflowerseed. 2/ Includes poultry meat. 3/ Total in raw equivalent.
4/ Converted from pieces to metric tons at 22 kg per piece.
Sources: Statistical yearbooks of the respective countries, CEMA Yearbook, FAO Trade Yearbook, Statistical Yearbook, statistical yearbooks of trading partners.

**Table 10—Exports of selected agricultural commodities, Central Europe, 1976-80 and 1981-85 averages and 1985-88 annual**

| Commodity and country | 1976-80 | 1981-85 | 1985 | 1986 | 1987 | 1988 |
|---|---|---|---|---|---|---|
| | | | *1,000 tons* | | | |
| Oilseeds: 1/ | | | | | | |
| Bulgaria | 22 | 13 | 14 | 2 | 11 | 40 |
| Czechoslovakia | 1 | 1 | — | — | 5 | 3 |
| East Germany | 12 | 16 | 4 | 5 | 82 | 34 |
| Hungary | 80 | 124 | 132 | 105 | 217 | 172 |
| Poland | 51 | 61 | 245 | 506 | 428 | 385 |
| Romania | 4 | 2 | 2 | 2 | 1 | 1 |
| Yugoslavia | 16 | 2 | 2 | 2 | 2 | 11 |
| Total | 185 | 219 | 399 | 622 | 746 | 646 |
| Vegetable oil, edible: | | | | | | |
| Bulgaria | 16 | 32 | 7 | 16 | 14 | 6 |
| Czechoslovakia | 1 | — | 8 | 12 | 7 | 20 |
| East Germany | — | — | 29 | 20 | 13 | 13 |
| Hungary | 58 | 169 | 168 | 208 | 212 | 221 |
| Poland | 57 | 18 | 38 | 49 | 49 | 21 |
| Romania | 121 | 86 | 34 | 51 | 45 | 30 |
| Yugoslavia | 14 | 5 | 1 | 2 | 12 | 66 |
| Total | 267 | 337 | 285 | 358 | 352 | 377 |
| Meat and meat products: 2/ | | | | | | |
| Bulgaria | 108 | 114 | 126 | 137 | 121 | 135 |
| Czechoslovakia | 32 | 55 | 40 | 37 | 30 | — |
| East Germany | 133 | 134 | 137 | 128 | 150 | — |
| Hungary | 285 | 423 | 414 | 421 | 466 | 497 |
| Poland | 156 | 81 | 91 | 125 | 138 | 140 |
| Romania | 187 | 173 | 266 | 268 | 209 | — |
| Yugoslavia | 74 | 147 | 168 | 137 | 148 | — |
| Total | 974 | 1,126 | 1,242 | 1,253 | 1,262 | 772 |
| Sugar: 3/ | | | | | | |
| Bulgaria | 2 | 2 | 12 | 40 | 12 | 3 |
| Czechoslovakia | 196 | 199 | 279 | 367 | 240 | 134 |
| East Germany | 82 | 131 | 222 | 345 | 244 | 232 |
| Hungary | 31 | 43 | 44 | 4 | 28 | 86 |
| Poland | 213 | 182 | 188 | 142 | 318 | 86 |
| Romania | 72 | 68 | 133 | 94 | 67 | 51 |
| Yugoslavia | 78 | 30 | 106 | 48 | 16 | 129 |
| Total | 674 | 656 | 984 | 1,040 | 925 | 721 |
| Tobacco: | | | | | | |
| Bulgaria | 69 | 63 | 60 | 62 | 56 | 58 |
| Czechoslovakia | 1 | 0 | — | — | 5 | 5 |
| East Germany | 2 | 1 | 1 | 1 | 1 | — |
| Hungary | 1 | 3 | 1 | 3 | 3 | 3 |
| Poland | 9 | 5 | 7 | 11 | 11 | 10 |
| Romania | 7 | 4 | 3 | 3 | 3 | 5 |
| Yugoslavia | 24 | 22 | 15 | 14 | 17 | 15 |
| Total | 115 | 98 | 87 | 94 | 96 | 96 |
| Oilseed meal: | | | | | | |
| Bulgaria | 0 | 11 | 54 | 105 | 252 | 106 |
| Czechoslovakia | 29 | 1 | 2 | — | 6 | 20 |
| East Germany | 4 | 5 | — | — | — | — |
| Hungary | 1 | 8 | — | — | 12 | 2 |
| Poland | 5 | 32 | 122 | 31 | 25 | 66 |
| Romania | 0 | 0 | — | — | — | — |
| Yugoslavia | 3 | 5 | 20 | 56 | 84 | 81 |
| Total | 42 | 62 | 198 | 192 | 379 | 275 |

— = Data not available or amount less than 1,000 tons. 1/ Rapeseed, soybeans, and sunflowerseed. 2/ Includes poultry meat. 3/ Total in raw equivalent.
Sources: Statistical yearbooks of the respective countries, CEMA Yearbook, FAO Trade Yearbook, statistical yearbooks of trading partners.

Table 11—January livestock numbers, Central Europe, 1976-80, 1981-85 and 1986-90 averages and 1986-90 annual

| Category and year | Bulgaria | Czecho-slovakia | East Germany | Hungary | Poland | Romania | Yugo-slavia | Total Central Europe |
|---|---|---|---|---|---|---|---|---|
| | | | | *1,000 head* | | | | |
| Cattle: | | | | | | | | |
| 1976-80 | 1,733 | 4,754 | 5,544 | 1,926 | 12,339 | 6,361 | 5,575 | 38,232 |
| 1981-85 | 1,783 | 5,115 | 5,756 | 1,919 | 11,163 | 6,565 | 5,366 | 37,667 |
| 1986-90 | 1,654 | 5,067 | 5,756 | 1,705 | 10,380 | 6,837 | 4,869 | 36,269 |
| 1987 | 1,678 | 5,073 | 5,804 | 1,725 | 10,522 | 7,225 | 5,030 | 37,057 |
| 1988 | 1,649 | 5,044 | 5,721 | 1,664 | 10,200 | 7,182 | 4,881 | 36,341 |
| 1989 | 1,615 | 5,075 | 5,710 | 1,690 | 10,106 | 6,416 | 4,759 | 35,371 |
| 1990 | 1,623 | 5,080 | 5,720 | 1,680 | 10,733 | 6,291 | 4,639 | 36,209 |
| Cows: | | | | | | | | |
| 1976-80 | 697 | 1,902 | 2,145 | 773 | 5,914 | 2,612 | 3,181 | 17,224 |
| 1981-85 | 699 | 1,896 | 2,112 | 747 | 5,670 | 2,600 | 3,043 | 16,767 |
| 1986-90 | 653 | 1,837 | 2,038 | 677 | 4,981 | 2,632 | 2,891 | 15,709 |
| 1986 | 670 | 1,860 | 2,064 | 688 | 5,331 | 2,556 | 2,915 | 16,084 |
| 1987 | 653 | 1,842 | 2,045 | 676 | 5,021 | 2,680 | 2,893 | 15,810 |
| 1988 | 646 | 1,830 | 2,012 | 673 | 4,830 | 2,700 | 2,902 | 15,593 |
| 1989 | 648 | 1,815 | 2,030 | 672 | 4,728 | 2,758 | 2,900 | 36,209 |
| 1990 | 650 | na | na | na | 4,994 | 2,468 | 2,845 | |
| Hogs: | | | | | | | | |
| 1976-80 | 3,669 | 7,240 | 11,683 | 7,805 | 20,219 | 9,997 | 7,513 | 68,126 |
| 1981-85 | 3,793 | 7,227 | 12,819 | 8,948 | 17,689 | 13,155 | 8,536 | 72,166 |
| 1986-90 | na | 7,101 | 12,581 | 8,317 | 19,425 | 14,055 | 7,793 | 69,272 |
| 1986 | 3,912 | 6,651 | 12,946 | 8,280 | 19,170 | 14,319 | 7,821 | 73,099 |
| 1987 | 4,050 | 6,833 | 12,840 | 8,687 | 19,619 | 14,711 | 8,459 | 75,199 |
| 1988 | 4,034 | 7,235 | 12,50 | 8,216 | 19,373 | 15,224 | 8,323 | 74,908 |
| 1989 | 4,134 | 7,384 | 12,464 | 8,327 | 20,127 | 14,351 | 7,396 | 74,183 |
| 1990 | 4,140 | 7,400 | 12,152 | 8,075 | 18,835 | 11,671 | 6,966 | 72,943 |
| Sheep: | | | | | | | | |
| 1976-80 | 10,105 | 837 | 1,925 | 2,560 | 3,452 | 14,818 | 7,504 | 41,201 |
| 1981-85 | 10,680 | 994 | 2,258 | 3,044 | 3,816 | 17,432 | 7,474 | 45,699 |
| 1986-90 | na | 1,080 | 2,633 | 2,281 | 4,542 | 17,562 | 7,641 | 35,738 |
| 1986 | 9,724 | 1,087 | 2,587 | 2,465 | 4,720 | 18,609 | 7,693 | 46,885 |
| 1987 | 9,563 | 1,104 | 2,647 | 2,337 | 4,725 | 18,762 | 7,819 | 46,957 |
| 1988 | 8,886 | 1,075 | 2,656 | 2,336 | 4,478 | 18,793 | 7,824 | 46,048 |
| 1989 | 8,593 | 1,047 | 2,634 | 2,216 | 4,377 | 16,210 | 7,564 | 42,641 |
| 1990 | 8,200 | 1,087 | 2,640 | 2,050 | 4,409 | 15,435 | 7,304 | 41,125 |
| Horses: | | | | | | | | |
| 1976-80 | 126 | 54 | 67 | 141 | 1,970 | 565 | 751 | 3,674 |
| 1981-85 | 119 | 45 | 83 | 111 | 1,641 | 605 | 499 | 3,103 |
| 1986-90 | 121 | 45 | 109 | 92 | 1,149 | 683 | 365 | 2,564 |
| 1986 | 120 | 46 | 105 | 98 | 1,324 | 672 | 409 | 2,774 |
| 1987 | 121 | 46 | 105 | 95 | 1,195 | 686 | 384 | 2,632 |
| 1988 | 123 | 45 | 114 | 88 | 1,200 | 693 | 362 | 2,625 |
| 1989 | 120 | 44 | 112 | 85 | 1,051 | 702 | 340 | 2,454 |
| 1990 | na | na | na | na | 973 | 663 | 330 | 1,966 |
| Poultry: | | | | | | | | |
| 1976-80 | 39,989 | 44,871 | 49,102 | 63,002 | 86,259 | 90,858 | 59,752 | 433,833 |
| 1981-85 | 42,081 | 48,676 | 52,339 | 65,329 | 70,286 | 112,258 | 69,448 | 460,417 |
| 1986-90 | 42,299 | 48,209 | 50,261 | 64,560 | 63,525 | 121,612 | 79,110 | 469,576 |
| 1986 | 39,227 | 47,278 | 50,680 | 61,570 | 72,300 | 124,770 | 78,281 | 474,106 |
| 1987 | 39,735 | 48,726 | 50,216 | 67,010 | 59,200 | 120,149 | 79,696 | 464,732 |
| 1988 | 41,424 | 47,984 | 50,719 | 65,160 | 59,800 | 127,561 | 78,589 | 471,237 |
| 1989 | 48,810 | 48,849 | 49,430 | 64,500 | 62,800 | 113,968 | 79,872 | 468,229 |
| 1990 | na | na | na | na | na | na | na | na |

na = Not available.
Sources: Statistical yearbooks of the respective countries, CEMA Yearbook.

**Table 12—Production of principal livestock products, Central Europe, 1976-80 and 1981-85 averages and 1986-89 annual**

| Category and year | Bulgaria | Czecho-slovakia | East Germany | Hungary | Poland | Romania | Yugo-slavia | Total Central Europe |
|---|---|---|---|---|---|---|---|---|
| | | | | *1,000 tons* | | | | |
| Beef and veal: 1/ | | | | | | | | |
| 1976-80 | 143 | 424 | 447 | 203 | 869 | 306 | 362 | 2,754 |
| 1981-85 | 162 | 442 | 442 | 204 | 757 | 242 | 372 | 2,621 |
| 1986 | 163 | 468 | 476 | 185 | 900 | 206 | 353 | 2,751 |
| 1987 | 163 | 467 | 494 | 180 | 900 | 190 | 374 | 2,768 |
| 1988 | 160 | 460 | 486 | 160 | 873 | 190 | 359 | 2,688 |
| 1989 | na | na | na | na | 680 | na | 350 | na |
| Mutton, lamb, and goat meat: 1/ | | | | | | | | |
| 1976-80 | 99 | 6 | 20 | 15 | 29 | 76 | 60 | 305 |
| 1981-85 | 117 | 10 | 19 | 21 | 30 | 70 | 60 | 327 |
| 1986 | 121 | 11 | 22 | 20 | 44 | 67 | 63 | 348 |
| 1987 | 116 | 13 | 24 | 18 | 47 | 63 | 65 | 346 |
| 1988 | 107 | 12 | 25 | 18 | 45 | 60 | 70 | 337 |
| 1989 | na | na | na | na | 40 | 65 | 66 | na |
| Pork: 1/, 2/ | | | | | | | | |
| 1976-80 | 349 | 803 | 1,198 | 922 | 1,728 | 876 | 720 | 6,596 |
| 1981-85 | 387 | 837 | 1,317 | 1,079 | 1,419 | 930 | 798 | 6,767 |
| 1986 | 434 | 864 | 1,430 | 1,052 | 1,788 | 840 | 795 | 7,203 |
| 1987 | 434 | 891 | 1,431 | 1,093 | 1,757 | 900 | 871 | 7,377 |
| 1988 | 459 | 950 | 1,434 | 1,100 | 1,852 | 840 | 819 | 7,454 |
| 1989 | 418 | 952 | 1,436 | 950 | 1,748 | 875 | 760 | 7,139 |
| Poultry meat: 1/ | | | | | | | | |
| 1976-80 | 149 | 159 | 137 | 328 | 374 | 363 | 250 | 1,760 |
| 1981-85 | 157 | 170 | 154 | 320 | 279 | 462 | 293 | 1,835 |
| 1986 | 167 | 176 | 156 | 445 | 332 | 556 | 329 | 2,161 |
| 1987 | 169 | 181 | 167 | 470 | 344 | 560 | 323 | 2,214 |
| 1988 | 183 | 226 | 172 | 485 | 364 | 562 | 329 | 2,321 |
| 1989 | na | na | na | na | 350 | na | 332 | na |
| Total meat: 1/, 3/ | | | | | | | | |
| 1976-80 | 745 | 1,423 | 1,821 | 1,472 | 3,064 | 1,623 | 1,398 | 11,546 |
| 1981-85 | 826 | 1,501 | 1,954 | 1,726 | 2,587 | 1,748 | 1,594 | 11,936 |
| 1986 | 886 | 1,563 | 2,116 | 1,657 | 3,123 | 1,950 | 1,600 | 12,895 |
| 1987 | 883 | 1,594 | 2,144 | 1,783 | 3,119 | 1,965 | 1,585 | 13,073 |
| 1988 | 912 | 1,689 | 2,145 | 1,765 | 3,172 | 1,975 | 1,531 | 13,189 |
| 1989 | na | na | na | na | 2,840 | na | 1,448 | na |
| Milk: 4/, 5/ | | | | | | | | |
| 1976-80 | 1,653 | 5,629 | 8,155 | 2,283 | 16,805 | 4,164 | 4,136 | 42,825 |
| 1981-85 | 2,076 | 6,398 | 8,371 | 2,749 | 16,006 | 3,841 | 4,591 | 44,032 |
| 1986 | 2,174 | 7,015 | 8,188 | 2,763 | 15,793 | 4,243 | 4,665 | 44,841 |
| 1987 | 2,180 | 6,921 | 8,080 | 2,817 | 15,546 | 4,249 | 4,741 | 44,534 |
| 1988 | 2,225 | 6,963 | 8,050 | 2,873 | 15,647 | 4,250 | 4,633 | 44,641 |
| 1989 | na | na | na | na | 16,000 | na | 4,695 | na |
| | | | | *Million pieces* | | | | |
| Eggs: | | | | | | | | |
| 1976-80 | 2,163 | 4,691 | 5,287 | 4,475 | 8,523 | 6,583 | 4,117 | 35,839 |
| 1981-85 | 2,606 | 5,247 | 5,718 | 4,351 | 8,186 | 7,577 | 4,588 | 38,273 |
| 1986 | 2,820 | 5,558 | 5,634 | 4,290 | 8,303 | 8,884 | 4,770 | 40,259 |
| 1987 | 2,829 | 5,544 | 5,680 | 4,237 | 7,966 | 8,999 | 4,922 | 40,177 |
| 1988 | 2,740 | 5,596 | 5,737 | 4,585 | 8,220 | 9,010 | 4,491 | 40,379 |
| 1989 | na | na | na | na | 8,000 | na | 4,550 | na |

na = Not available. 1/ Data include offal and edible slaughter fat, and live animal exports for slaughter. CEMA data except for Yugoslavia. Yugoslay numbers are adjusted to conform to CEMA definitions. 2/ Yugoslav series revised to omit double ccounting of some offals. 3/ Data include horse and rabbit meat. 4/ Data include only cow milk for consumption in Romania, Yugoslavia, and Hungary. Data in the remaining countries include milk sucked by calves. 5/ East Germany began a new series for milk production in 1986, based on 4.0 percent fat content. Consequently, the present series has been revised, converting earlier data by dividing by 1.1428.
Sources: Statistical yearbooks of the respective countires, CEMA Yearbook.

**Table 13—Per capita consumption of selected foods, Central Europe, 1984-88**

| Food and year | Bulgaria | Czecho-slovakia | East Germany | Hungary 1/ | Poland | Romania | Yugo-slavia |
|---|---|---|---|---|---|---|---|
| | | | | *Kilograms* | | | |
| Total meat: 2/ | | | | | | | |
| 1984 | 74.5 | 84.8 | 94.4 | 101.2 | 63.6 | 57.0 | 52.6 |
| 1985 | 76.9 | 85.8 | 96.2 | 100.5 | 67.3 | 56.0 | 54.6 |
| 1986 | 78.6 | 87.3 | 97.0 | 101.2 | 73.7 | 56.0 | 56.4 |
| 1987 | 77.8 | 89.0 | 99.4 | 101.5 | 74.4 | 55.0 | 55.0 |
| 1988 | 77.0 | 88.0 | 99.5 | 101.0 | 74.0 | 52.0 | 55.0 |
| Eggs: 3/ | | | | | | | |
| 1984 | 236 | 337 | 303 | 320 | 210 | 270 | 175 |
| 1985 | 256 | 344 | 305 | 325 | 220 | 280 | 174 |
| 1986 | 256 | 346 | 299 | 318 | 209 | 295 | 176 |
| 1987 | 263 | 342 | 303 | 315 | 199 | 295 | 175 |
| Vegetable oil: 4/ | | | | | | | |
| 1984 | 15.0 | 10.4 | 10.2 | 6.8 | 6.8 | na | 11.8 |
| 1985 | 15.5 | 10.6 | 10.3 | 7.1 | 7.1 | na | 12.7 |
| 1986 | 15.6 | 11.2 | 9.9 | 5.6 | 6.8 | na | 16.2 |
| 1987 | 15.4 | 11.3 | 9.9 | 6.4 | 7.4 | na | 16.0 |
| Sugar: | | | | | | | |
| 1984 | 35.7 | 37.5 | 39.1 | 34.2 | 45.0 | na | 31.8 |
| 1985 | 35.1 | 35.4 | 39.6 | 35.3 | 41.3 | na | 35.3 |
| 1986 | 35.7 | 37.5 | 39.6 | 35.4 | 41.1 | na | 38.6 |
| 1987 | 35.0 | 37.3 | 40.8 | 39.6 | 46.1 | na | 38.0 |
| Grain: 5/ | | | | | | | |
| 1984 | 146 | 109 | 100 | 111 | 116 | 173 | 174 |
| 1985 | 144 | 111 | 99 | 110 | 118 | 174 | 173 |
| 1986 | 144 | 110 | 98 | 109 | 118 | 175 | 168 |
| 1987 | 144 | 112 | 99 | 112 | 118 | 175 | 168 |
| Vegetables: | | | | | | | |
| 1984 | 138 | 81 | 92 | 77 | 116 | 170 | 91 |
| 1985 | 127 | 75 | 104 | 76 | 105 | 170 | 81 |
| 1986 | 134 | 75 | 100 | 75 | 114 | 170 | 89 |
| 1987 | na | na | 102 | 79 | 116 | 170 | 85 |
| Potatoes: | | | | | | | |
| 1984 | 30 | 81 | 146 | 59 | 149 | 105 | 55 |
| 1985 | 33 | 78 | 143 | 54 | 143 | 105 | 51 |
| 1986 | 33 | 80 | 145 | 50 | 144 | 110 | 56 |
| 1987 | 28 | 73 | 147 | 50 | 143 | 105 | 57 |

na = Not available. 1/ Revista Economica, Bucharest, Dec. 29, 1978; Lumea, Oct. 30, 1981; Bucharest Domestic Service, Nov. 1, 1981; Scinteia, Nov. 29, 1981, Bucharest; unpublished official statistics. 2/ Hungarian series revised to include edible offals and fats. Vestnik statistiki #4, 1985, Moscow. 3/ Units. 4/ Numbers for Bulgaria and Hungary exclude vegetable oil used in margarine production. All numbers believed to be given in fat weight. 5/ In flour equivalent.
Sources: Statistical yearbooks of the respectivec countires, CEMA Yearbook, other sources where noted.

**Table 14—Total and agricultural trade, Central Europe, 1983-88**

| Commodity and year | Bulgaria | Czecho-slovakia | East Germany | Hungary | Poland | Romania | Yugo-slavia | Total Central Europe |
|---|---|---|---|---|---|---|---|---|
| | | | | *Million dollars* | | | | |
| Total trade: | | | | | | | | |
| Exports— | | | | | | | | |
| 1983 | 12,129 | 16,477 | 23,793 | 8,881 | 11,572 | 11,512 | 9,913 | 94,277 |
| 1984 | 12,850 | 17,153 | 24,838 | 8,836 | 11,347 | 12,646 | 10,136 | 97,806 |
| 1985 | 13,341 | 17,474 | 25,268 | 8,935 | 11,489 | 12,167 | 10,622 | 99,296 |
| 1986 | 14,169 | 20,457 | 27,729 | 9,140 | 12,074 | 12,543 | 11,084 | 107,196 |
| 1987 | 14,383 | 23,013 | 29,870 | 9,826 | 11,545 | 14,185 | 11,506 | 114,328 |
| 1988 | 14,958 | 24,072 | 30,019 | 10,240 | 12,630 | 15,674 | 12,597 | 120,191 |
| Imports— | | | | | | | | |
| 1984 | 12,714 | 17,078 | 22,940 | 8,024 | 10,547 | 10,334 | 10,925 | 92,562 |
| 1985 | 13,647 | 17,548 | 22,433 | 8,324 | 10,836 | 10,432 | 11,210 | 94,430 |
| 1986 | 15,487 | 21,089 | 27,414 | 9,688 | 11,208 | 10,590 | 11,786 | 107,262 |
| 1987 | 15,650 | 23,292 | 28,786 | 9,659 | 10,251 | 11,000 | 12,723 | 111,361 |
| 1988 | 15,368 | 23,941 | 29,074 | 9,667 | 11,143 | 11,011 | 13,154 | 113,358 |
| Balance— | | | | | | | | |
| 1984 | 136 | 75 | 1,898 | 812 | 800 | 2,312 | -789 | 5,244 |
| 1985 | -306 | -74 | 2,835 | 611 | 653 | 1,735 | -588 | 4,866 |
| 1986 | -1,318 | -632 | 315 | -548 | 866 | 1,953 | -702 | -66 |
| 1987 | -1,268 | -279 | 1,084 | 167 | 1,294 | 3,185 | -1,217 | 2,966 |
| 1988 | -411 | 131 | 945 | 573 | 1,487 | 4,663 | -557 | 6,833 |
| Agricultural trade: | | | | | | | | |
| Exports— | | | | | | | | |
| 1983 | 1,764 | 550 | 416 | 2,041 | 789 | 840 | 1,188 | 7,588 |
| 1984 | 1,587 | 542 | 407 | 1,961 | 904 | 768 | 1,082 | 7,251 |
| 1985 | 1,545 | 574 | 444 | 1,847 | 953 | 779 | 1,021 | 7,163 |
| 1986 | 1,648 | 617 | 538 | 1,890 | 1,078 | 837 | 940 | 7,548 |
| 1987 | 1,637 | 645 | 554 | 1,906 | 1,195 | 874 | 1,044 | 7,855 |
| 1988 | 1,783 | 718 | 540 | 2,148 | 1,291 | 764 | 1,139 | 8,383 |
| Imports— | | | | | | | | |
| 1983 | 820 | 1,657 | 2,665 | 796 | 1,348 | 757 | 1,107 | 9,150 |
| 1984 | 824 | 1,671 | 2,536 | 760 | 1,496 | 713 | 1,150 | 9,150 |
| 1985 | 1,073 | 1,743 | 1,943 | 731 | 1,375 | 608 | 1,098 | 8,571 |
| 1986 | 1,058 | 1,865 | 2,029 | 874 | 1,286 | 725 | 1,285 | 9,122 |
| 1987 | 1,013 | 1,925 | 1,946 | 895 | 1,391 | 545 | 1,123 | 8,838 |
| 1988 | 1,211 | 2,233 | 2,187 | 857 | 1,783 | 529 | 1,312 | 10,112 |
| Balance— | | | | | | | | |
| 1983 | 944 | -1,107 | -2,249 | 1,245 | -559 | 83 | 81 | -1,562 |
| 1984 | 763 | -1,129 | -2,129 | 1,201 | -592 | 55 | -68 | -1,899 |
| 1985 | 472 | -1,169 | -1,499 | 1,116 | -422 | 171 | -77 | -1,408 |
| 1986 | 590 | -1,248 | -1,491 | 1,016 | -208 | 112 | -345 | -1,574 |
| 1987 | 624 | -1,280 | -1,392 | 1,011 | -196 | 329 | -79 | -983 |
| 1988 | 572 | -1,515 | -1,647 | 1,291 | -492 | 235 | -173 | -1,729 |

Sources: Total trade—United Nations and IMF data; 1987 estimates are based on plan fulfillment reports; Agricultural trade—FAO data.

**Table 15—U.S. total and agricultural trade with Central Europe, 1976-80 and 1981-85 averages and 1986-89 annual**

| Category and year | Bulgaria | Czecho-slovakia | East Germany | Hungary | Poland | Romania | Yugo-slavia | Total Central Europe |
|---|---|---|---|---|---|---|---|---|
| | | | | *Million dollars* | | | | |
| Total exports: | | | | | | | | |
| 1976-80 | 68.7 | 206.2 | 366.0 | 85.0 | 666.3 | 418.3 | 548.4 | 2,358.9 |
| 1981-85 | 116.8 | 80.4 | 188.2 | 86.5 | 370.3 | 282.3 | 567.7 | 1,692.2 |
| 1986 | 95.9 | 67.5 | 70.6 | 88.2 | 145.9 | 249.2 | 520.8 | 1,238.1 |
| 1987 | 88.3 | 46.9 | 56.9 | 94.1 | 241.9 | 192.1 | 459.4 | 1,179.6 |
| 1988 | 126.4 | 54.4 | 114.4 | 76.1 | 305.7 | 202.2 | 531.1 | 1,410.3 |
| Total imports: | | | | | | | | |
| 1976-80 | 21.6 | 49.2 | 29.0 | 76.5 | 385.0 | 284.3 | 389.7 | 1,235.3 |
| 1981-85 | 29.6 | 70.1 | 78.6 | 170.5 | 239.2 | 637.9 | 439.6 | 1,665.5 |
| 1986 | 49.7 | 85.3 | 85.3 | 223.9 | 231.0 | 750.0 | 647.1 | 2,072.3 |
| 1987 | 40.3 | 77.8 | 84.5 | 277.6 | 295.5 | 714.4 | 793.7 | 2,283.8 |
| 1988 | 36.6 | 84.9 | 111.4 | 293.1 | 369.8 | 678.0 | 846.4 | 2,420.2 |
| Balance: | | | | | | | | |
| 1976-80 | 47.2 | 157.0 | 337.0 | 8.5 | 281.2 | 134.0 | 158.7 | 1,123.6 |
| 1981-85 | 87.2 | 10.3 | 109.7 | -84.0 | 131.1 | -355.6 | 128.1 | 26.8 |
| 1986 | 46.2 | -17.8 | -14.7 | -135.7 | -85.1 | -500.8 | -126.3 | -834.2 |
| 1987 | 48.0 | -30.9 | -27.6 | -183.5 | -53.6 | -522.3 | -334.3 | -1,104.2 |
| 1988 | 89.8 | -30.5 | 3.0 | -217.0 | -64.1 | -475.8 | -315.3 | -1,009.9 |
| Total agricultural exports: 1/ | | | | | | | | |
| 1976-80 | 50.8 | 181.2 | 352.1 | 37.0 | 519.1 | 256.0 | 171.1 | 1,567.3 |
| 1981-85 | 74.5 | 49.5 | 176.9 | 31.2 | 254.0 | 180.7 | 191.8 | 958.6 |
| 1986 | 51.3 | 20.9 | 60.9 | 27.0 | 33.1 | 115.5 | 124.0 | 432.7 |
| 1987 | 46.7 | 16.3 | 35.1 | 19.2 | 103.3 | 98.8 | 116.3 | 435.7 |
| 1988 | 96.2 | 15.4 | 75.8 | 4.8 | 135.8 | 103.9 | 107.9 | 539.8 |
| 1989 | 129.6 | 16.8 | 74.5 | 5.6 | 58.2 | 60.7 | 55.8 | 401.2 |
| Direct agricultural exports: 2/ | | | | | | | | |
| 1976-80 | 48.4 | 133.6 | 206.8 | 31.6 | 500.0 | 247.5 | 156.1 | 1,324.0 |
| 1981-85 | 73.3 | 37.9 | 162.6 | 31.2 | 252.9 | 171.7 | 182.4 | 912.0 |
| 1986 | 51.3 | 20.9 | 60.9 | 27.0 | 33.1 | 115.5 | 124.0 | 432.7 |
| 1987 | 46.7 | 16.3 | 35.1 | 19.2 | 103.3 | 98.8 | 116.3 | 435.7 |
| 1988 | 96.2 | 15.4 | 75.8 | 4.8 | 135.8 | 103.9 | 107.9 | 539.8 |
| Total agricultural imports: | | | | | | | | |
| 1976-80 | 19.9 | 6.7 | 2.1 | 29.0 | 148.8 | 26.5 | 85.2 | 318.2 |
| 1981-85 | 23.5 | 10.2 | 1.8 | 42.4 | 96.9 | 19.0 | 64.6 | 258.4 |
| 1986 | 22.1 | 14.3 | 0.5 | 61.9 | 132.2 | 12.4 | 66.6 | 310.0 |
| 1987 | 24.0 | 13.2 | 0.5 | 67.8 | 141.1 | 19.4 | 68.8 | 334.8 |
| 1988 | 23.9 | 7.3 | 0.7 | 62.5 | 146.2 | 12.8 | 63.0 | 316.4 |
| 1989 | 23.0 | 7.8 | 1.2 | 75.8 | 127.8 | 9.7 | 75.6 | 320.9 |
| Balance: | | | | | | | | |
| 1976-80 | 30.9 | 174.4 | 350.1 | 8.0 | 370.3 | 229.6 | 85.8 | 1,249.1 |
| 1981-85 | 51.0 | 39.3 | 175.1 | -11.2 | 157.1 | 161.7 | 127.1 | 700.1 |
| 1986 | 29.2 | 6.6 | 60.4 | -34.9 | -99.1 | 103.1 | 57.4 | 122.7 |
| 1987 | 22.7 | 3.1 | 34.6 | -48.6 | -37.8 | 79.4 | 47.5 | 100.9 |
| 1988 | 72.3 | 8.1 | 75.1 | -57.7 | -10.4 | 91.1 | 44.9 | 223.4 |
| 1989 | 106.6 | 9.0 | 73.3 | -70.2 | -69.6 | 51.0 | -19.8 | 80.3 |

1/ Data from before 1984 include estimated transshipments through Belgium, Canada, West Germany, and the Netherlands. Beginning in 1984, transshipments are no longer being calculated, because of their decline in value and the difficulty in obtaining data. Total exports are therefore assumed to be equal to direct exports. 2/ Includes estimated transshipments through Canada.
Sources: Bureau of the Census, U.S. Dept. of Commerce; U.S. Export Sales, FAS/USDA.

**Table 16—Volume and value of U.S. agricultural exports to Central Europe, 1976-80 and 1981-85 averages and 1986-89 annual (continued)**

| Commodity and country | Volume | | | | | | Value | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1976-80 | 1981-85 | 1986 | 1987 | 1988 | 1989 | 1976-80 | 1981-85 | 1986 | 1987 | 1988 | 1989 |
| | *1,000 tons* | | | | | | *Million dollars* | | | | | |
| Soybean meal and cake: | | | | | | | | | | | | |
| Bulgaria | 73 | 71 | 18 | — | 33 | — | 16.9 | 16.8 | 3.0 | — | 7.0 | — |
| Czechoslovakia | 281 | 39 | — | — | — | — | 56.7 | 8.5 | — | — | — | — |
| East Germany | 345 | 101 | 116 | 26 | — | — | 75.7 | 24.6 | 22.6 | 6.1 | — | — |
| Hungary | 95 | 91 | 77 | 72 | — | — | 22.8 | 20.0 | 18.6 | 15.3 | — | — |
| Poland | 356 | 148 | — | 27 | — | — | 76.1 | 35.2 | — | 6.7 | — | — |
| Romania | 158 | 91 | 26 | 11 | 20 | — | 36.0 | 24.1 | 6.7 | 2.8 | 5.0 | — |
| Yugoslavia | 133 | 111 | 118 | 97 | 93 | 33 | 27.8 | 24.8 | 24.2 | 19.7 | 24.0 | 10.0 |
| Subtotal | 1,441 | 653 | 355 | 233 | 146 | 33 | 312.0 | 154.1 | 75.1 | 50.6 | 36.1 | 9.6 |
| Cotton: | | | | | | | | | | | | |
| Bulgaria | — | — | — | — | — | — | — | — | — | — | — | — |
| Czechoslovakia | — | — | — | — | — | 1 | — | — | — | — | — | — |
| East Germany | — | 1 | — | 1 | — | — | — | 0.2 | — | 1.5 | 1.0 | 0.3 |
| Hungary | — | — | — | — | — | — | — | 0.8 | — | — | — | — |
| Poland | 8 | 1 | — | 5 | 8 | 10 | 12.3 | 3.0 | — | 8.2 | 11.0 | 15.0 |
| Romania | 10 | — | — | — | — | 3 | 15.4 | — | — | — | — | 6.0 |
| Yugoslavia | — | 19 | 4 | 2 | 5 | 4 | — | 0.5 | 8.0 | 5.1 | 10.0 | 10.0 |
| Subtotal | 18 | 21 | 4 | 8 | 13 | 18 | 27.7 | 4.5 | 8.0 | 14.8 | 22.1 | 30.9 |
| Cattle hides: 1/ | | | | | | | | | | | | |
| Bulgaria | 41 | 29 | 10 | — | 10 | — | 1.1 | 1.3 | 0.4 | — | 1.0 | — |
| Czechoslovakia | 589 | 464 | 522 | 315 | 245 | 266 | 15.1 | 14.3 | 19.0 | 14.1 | 13.0 | 13.0 |
| East Germany | 33 | — | — | — | — | — | 0.7 | 0.1 | — | — | — | — |
| Hungary | 183 | 99 | 39 | 19 | 12 | 2 | 3.9 | 3.3 | 1.3 | 0.6 | 0 | 1.0 |
| Poland | 441 | 402 | 179 | 39 | 58 | 184 | 12.6 | 12.1 | 6.3 | 1.5 | 3.0 | 9.0 |
| Romania | 1,486 | 1,028 | 689 | 292 | 624 | 1,154 | 38.8 | 34.5 | 24.4 | 12.9 | 36.0 | 52.0 |
| Yugoslavia | 461 | 379 | 203 | 80 | 104 | 144 | 7.9 | 15.7 | 12.2 | 4.7 | 7.0 | 1.0 |
| Subtotal | 3,234 | 2,400 | 1,642 | 745 | 1,053 | 1,750 | 80.1 | 81.3 | 63.6 | 33.8 | 60.9 | 74.9 |
| Other: | | | | | | | | | | | | |
| Bulgaria | na | na | na | na | na | na | 4.9 | 7.9 | 16.0 | 4.0 | 2.0 | 0 |
| Czechoslovakia | na | na | na | na | na | na | 7.7 | 2.2 | 2.0 | 2.0 | 2.0 | 4.0 |
| East Germany | na | na | na | na | na | na | 7.7 | 8.6 | 4.0 | 5.0 | 4.0 | 3.0 |
| Hungary | na | na | na | na | na | na | 4.7 | 6.9 | 7.0 | 3.0 | 4.0 | 4.0 |
| Poland | na | na | na | na | na | na | 42.7 | 70.8 | 15.0 | 4.0 | 5.0 | 13.0 |
| Romania | na | na | na | na | na | na | 3.9 | 3.1 | 4.0 | 1.0 | 3.0 | 4.0 |
| Yugoslavia | na | na | na | na | na | na | 17.3 | 14.6 | 10.0 | 9.0 | 5.0 | 12.0 |
| Subtotal | na | na | na | na | na | na | 88.8 | 114.1 | 57.9 | 29.1 | 25.7 | 39.8 |
| All commodities: | | | | | | | | | | | | |
| Bulgaria | na | na | na | na | na | na | 50.8 | 74.5 | 51.3 | 46.7 | 96.0 | 130.0 |
| Czechoslovakia | na | na | na | na | na | na | 181.2 | 49.5 | 20.9 | 16.3 | 15.0 | 17.0 |
| East Germany | na | na | na | na | na | na | 352.1 | 176.9 | 60.9 | 35.1 | 76.0 | 75.0 |
| Hungary | na | na | na | na | na | na | 37.0 | 31.2 | 27.0 | 19.2 | 5.0 | 6.0 |
| Poland | na | na | na | na | na | na | 519.1 | 254.0 | 33.1 | 103.3 | 136.0 | 58.0 |
| Romania | na | na | na | na | na | na | 256.0 | 180.7 | 115.5 | 98.8 | 104.0 | 61.0 |
| Yugoslavia | na | na | na | na | na | na | 171.1 | 191.8 | 124.0 | 116.3 | 108.0 | 56.0 |
| Total | na | na | na | na | na | na | 1,567.2 | 958.6 | 432.7 | 435.7 | 539.8 | 401.2 |

Note: Until 1984, data include estimated transshipments through Belgium, Canada, West Germany, and the Netherlands. Beginning in 1984, transshipments no longer calculated because of their decline in value and difficulty in obtaining data. Total exports are therefore assumed to be equal to direct exports. Data may not add because of rounding. — = Amount less than 1,000 tons or $1 million. na = Not applicable. 1/ 1,000 pieces.
Sources: Bureau of the Census, U.S. Dept. of Commerce; Foreign Agricultural Trade of the United States, ERS/USDA; US Exports Sales

**Table 16—Volume and value of U.S. agricultural exports to Central Europe, 1976-80 and 1981-85 averages and 1986-89 annual (continued)**

| Commodity and country | Volume | | | | | | Value | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1976-80 | 1981-85 | 1986 | 1987 | 1988 | 1989 | 1976-80 | 1981-85 | 1986 | 1987 | 1988 | 1989 |
| | *1,000 tons* | | | | | | *Million dollars* | | | | | |
| Soybean meal and cake: | | | | | | | | | | | | |
| Bulgaria | 73 | 71 | 18 | — | 33 | — | 16.9 | 16.8 | 3.0 | — | 7.0 | — |
| Czechoslovakia | 281 | 39 | — | — | — | — | 56.7 | 8.5 | — | — | — | — |
| East Germany | 345 | 101 | 116 | 26 | — | — | 75.7 | 24.6 | 22.6 | 6.1 | — | — |
| Hungary | 95 | 91 | 77 | 72 | — | — | 22.8 | 20.0 | 18.6 | 15.3 | — | — |
| Poland | 356 | 148 | — | 27 | — | — | 76.1 | 35.2 | — | 6.7 | — | — |
| Romania | 158 | 91 | 26 | 11 | 20 | — | 36.0 | 24.1 | 6.7 | 2.8 | 5.0 | — |
| Yugoslavia | 133 | 111 | 118 | 97 | 93 | 33 | 27.8 | 24.8 | 24.2 | 19.7 | 24.0 | 10.0 |
| Subtotal | 1,441 | 653 | 355 | 233 | 146 | 33 | 312.0 | 154.1 | 75.1 | 50.6 | 36.1 | 9.6 |
| Cotton: | | | | | | | | | | | | |
| Bulgaria | — | — | — | — | — | — | — | — | — | — | — | — |
| Czechoslovakia | — | — | — | — | — | 1 | — | — | — | — | — | — |
| East Germany | — | 1 | — | 1 | — | — | — | 0.2 | — | 1.5 | 1.0 | 0.3 |
| Hungary | — | — | — | — | — | — | — | 0.8 | — | — | — | — |
| Poland | 8 | 1 | — | 5 | 8 | 10 | 12.3 | 3.0 | — | 8.2 | 11.0 | 15.0 |
| Romania | 10 | — | — | — | — | 3 | 15.4 | — | — | — | — | 6.0 |
| Yugoslavia | — | 19 | 4 | 2 | 5 | 4 | — | 0.5 | 8.0 | 5.1 | 10.0 | 10.0 |
| Subtotal | 18 | 21 | 4 | 8 | 13 | 18 | 27.7 | 4.5 | 8.0 | 14.8 | 22.1 | 30.9 |
| Cattle hides: 1/ | | | | | | | | | | | | |
| Bulgaria | 41 | 29 | 10 | — | 10 | — | 1.1 | 1.3 | 0.4 | — | 1.0 | — |
| Czechoslovakia | 589 | 464 | 522 | 315 | 245 | 266 | 15.1 | 14.3 | 19.0 | 14.1 | 13.0 | 13.0 |
| East Germany | 33 | — | — | — | — | — | 0.7 | 0.1 | — | — | — | — |
| Hungary | 183 | 99 | 39 | 19 | 12 | 2 | 3.9 | 3.3 | 1.3 | 0.6 | 0 | 1.0 |
| Poland | 441 | 402 | 179 | 39 | 58 | 184 | 12.6 | 12.1 | 6.3 | 1.5 | 3.0 | 9.0 |
| Romania | 1,486 | 1,028 | 689 | 292 | 624 | 1,154 | 38.8 | 34.5 | 24.4 | 12.9 | 36.0 | 52.0 |
| Yugoslavia | 461 | 379 | 203 | 80 | 104 | 144 | 7.9 | 15.7 | 12.2 | 4.7 | 7.0 | 1.0 |
| Subtotal | 3,234 | 2,400 | 1,642 | 745 | 1,053 | 1,750 | 80.1 | 81.3 | 63.6 | 33.8 | 60.9 | 74.9 |
| Other: | | | | | | | | | | | | |
| Bulgaria | na | na | na | na | na | na | 4.9 | 7.9 | 16.0 | 4.0 | 2.0 | 0 |
| Czechoslovakia | na | na | na | na | na | na | 7.7 | 2.2 | 2.0 | 2.0 | 2.0 | 4.0 |
| East Germany | na | na | na | na | na | na | 7.7 | 8.6 | 4.0 | 5.0 | 4.0 | 3.0 |
| Hungary | na | na | na | na | na | na | 4.7 | 6.9 | 7.0 | 3.0 | 4.0 | 4.0 |
| Poland | na | na | na | na | na | na | 42.7 | 70.8 | 15.0 | 4.0 | 5.0 | 13.0 |
| Romania | na | na | na | na | na | na | 3.9 | 3.1 | 4.0 | 1.0 | 3.0 | 4.0 |
| Yugoslavia | na | na | na | na | na | na | 17.3 | 14.6 | 10.0 | 9.0 | 5.0 | 12.0 |
| Subtotal | na | na | na | na | na | na | 88.8 | 114.1 | 57.9 | 29.1 | 25.7 | 39.8 |
| All commodities: | | | | | | | | | | | | |
| Bulgaria | na | na | na | na | na | na | 50.8 | 74.5 | 51.3 | 46.7 | 96.0 | 130.0 |
| Czechoslovakia | na | na | na | na | na | na | 181.2 | 49.5 | 20.9 | 16.3 | 15.0 | 17.0 |
| East Germany | na | na | na | na | na | na | 352.1 | 176.9 | 60.9 | 35.1 | 76.0 | 75.0 |
| Hungary | na | na | na | na | na | na | 37.0 | 31.2 | 27.0 | 19.2 | 5.0 | 6.0 |
| Poland | na | na | na | na | na | na | 519.1 | 254.0 | 33.1 | 103.3 | 136.0 | 58.0 |
| Romania | na | na | na | na | na | na | 256.0 | 180.7 | 115.5 | 98.8 | 104.0 | 61.0 |
| Yugoslavia | na | na | na | na | na | na | 171.1 | 191.8 | 124.0 | 116.3 | 108.0 | 56.0 |
| Total | na | na | na | na | na | na | 1,567.2 | 958.6 | 432.7 | 435.7 | 539.8 | 401.2 |

Note: Until 1984, data include estimated transshipments through Belgium, Canada, West Germany, and the Netherlands. Beginning in 1984, transshipments no longer calculated because of their decline in value and difficulty in obtaining data. Total exports are therefore assumed to be equal to di because of rounding. — = Amount less than 1,000 tons or $1 million. na = Not applicable. 1/ 1,000 pieces.
Sources: Bureau of the Census, U.S. Dept. of Commerce; Foreign Agricultural Trade of the United States, ERS/USDA; US Exports Sales

**Table 17—Volume and value of U.S. agricultural imports from Central Europe, 1976-80 and 1981-85 averages and 1986-89 annual**

| Commodity and country | 1976-80 | 1981-85 | 1986 | 1987 | 1988 | 1989 |
|---|---|---|---|---|---|---|
| | | | *1,000 tons* | | | |
| Volume: | | | | | | |
| Processed meat— | | | | | | |
| Bulgaria | — | — | — | — | — | — |
| Czechoslovakia | 1.1 | 1.2 | 0.9 | 1.0 | 1.1 | 0.9 |
| East Germany | — | — | — | — | — | — |
| Hungary | 7.6 | 11.2 | 15.2 | 16.3 | 14.4 | 6.8 |
| Poland | 39.4 | 25.7 | 36.0 | 37.7 | 38.6 | 34.0 |
| Romania | 6.9 | 3.9 | 3.5 | 6.7 | 4.4 | 2.0 |
| Yugoslavia | 14.6 | 11.0 | 8.4 | 10.4 | 11.7 | 12.5 |
| Total Value: | 69.6 | 52.9 | 64.0 | 72.1 | 70.2 | 56.2 |
| | | | *Million dollars* | | | |
| Value: | | | | | | |
| Processed meat— | | | | | | |
| Bulgaria | — | — | — | — | — | — |
| Czechoslovakia | 3.4 | 3.2 | 2.5 | 2.7 | 2.5 | 2.4 |
| East Germany | 0.1 | — | — | — | — | — |
| Hungary | 23.7 | 31.3 | 40.1 | 43.5 | 33.1 | 18.0 |
| Poland | 131.3 | 81.0 | 112.9 | 121.0 | 111.9 | 97.9 |
| Romania | 18.9 | 9.0 | 7.4 | 16.0 | 9.5 | 5.2 |
| Yugoslavia | 47.2 | 30.9 | 22.7 | 29.9 | 29.0 | 32.0 |
| Subtotal | 224.6 | 155.5 | 185.6 | 213.1 | 186.0 | 155.5 |
| Other products— | | | | | | |
| Bulgaria | 19.9 | 23.5 | 22.1 | 24.0 | 23.9 | 23.0 |
| Czechoslovakia | 3.4 | 7.0 | 11.8 | 10.5 | 4.8 | 5.4 |
| East Germany | 2.0 | 1.8 | 0.5 | 0.0 | 0.7 | 1.2 |
| Hungary | 5.3 | 11.1 | 21.8 | 24.3 | 29.4 | 57.8 |
| Poland | 17.5 | 16.0 | 19.3 | 20.1 | 34.3 | 29.9 |
| Romania | 7.5 | 10.0 | 5.0 | 3.4 | 3.3 | 4.5 |
| Yugoslavia | 38.0 | 33.7 | 43.9 | 38.9 | 34.0 | 43.6 |
| Subtotal | 93.5 | 103.1 | 124.4 | 121.2 | 130.4 | 165.4 |
| All commodities— | | | | | | |
| Bulgaria | 19.9 | 23.5 | 22.1 | 24.0 | 23.9 | 23.0 |
| Czechoslovakia | 6.7 | 10.2 | 14.3 | 13.2 | 7.3 | 7.8 |
| East Germany | 2.1 | 1.8 | 0.5 | 0.5 | 0.7 | 1.2 |
| Hungary | 29.0 | 42.4 | 61.9 | 67.8 | 62.5 | 75.8 |
| Poland | 148.8 | 96.9 | 132.2 | 141.1 | 146.2 | 127.8 |
| Romania | 26.5 | 19.0 | 12.4 | 19.4 | 12.8 | 9.7 |
| Yugoslavia | 85.2 | 64.6 | 66.6 | 68.8 | 63.0 | 75.6 |
| Total | 318.2 | 258.4 | 310.0 | 334.3 | 316.4 | 320.9 |

— = Amount less than 1,000 tons or $1 million.

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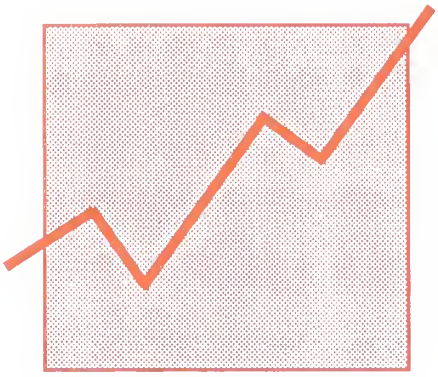

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